SOCIAL SCIENCES

March-April, 1957

Word Value in Questioning—*W. Dienstein*

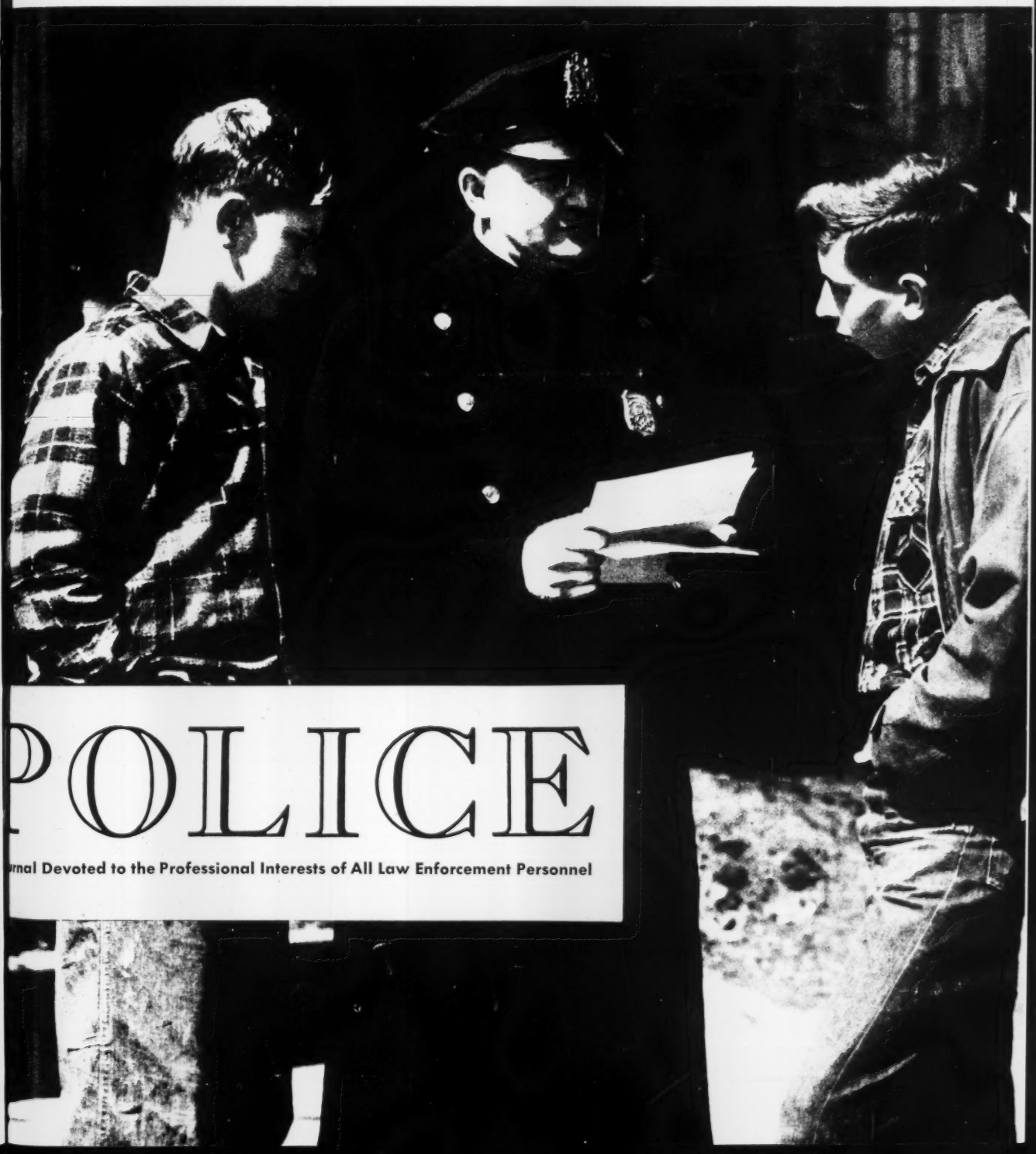
Michigan Police Personnel—*A. C. Germann*

The Police Officer as Witness—*W. L. Oblinger*

"Gentle" Sex Murderer—*J. M. Reinhardt*

Police Public Relations

Pan Dodd Wheeler



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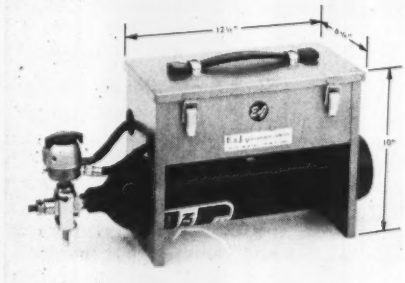

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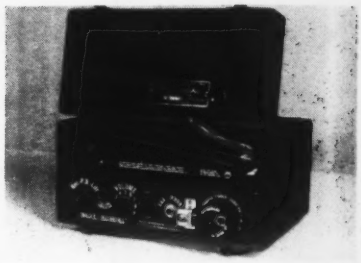

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Regular Departments

IN CASE YOU'RE TRAFFIC MINDED. Original articles and timely information about our Number 1 problem. See page 53.

POLYGRAPH AND INTERROGATION. Research developments, new techniques, procedures, and related subjects concerned with interrogation. See page 47.

IT'S NEW! A preview of new products, techniques, and materials for use in law-enforcement. See page 66.

NEWS AND ANNOUNCEMENTS of interest to all law enforcement personnel. See page 65.

Cover Picture

Juvenile delinquency, the elementary school of adult criminals, enrolls far too many "students." What are you, personally, doing about it? *(Armstrong Roberts photo.)*

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Police Public Relations
The Public of the Police Unit

By Pan Dodd Wheeler

EDITOR'S NOTE: *This is the first of a series of three articles written exclusively for* POLICE *by Pan Dodd Wheeler. Mrs. Wheeler is executive director of the Government Public Relations Association and Adviser, Municipal Technical Advisory Service, Division of University Extension of the University of Tennessee. Her "regular" position is as adviser on public relations to municipal officials (including police administrators) in Tennessee's 257 incorporated communities.*

"Oversimplification of public relations," Mrs. Wheeler writes, "can be as dangerous as over-complication." There's neither "mystery nor magic about public relations." On the other hand, a popular definition of public relations as "applying the golden rule in daily living," falls "far short of reality." The Golden Rule, the author believes, is an "underlying principle for anything one does. But it is not a satisfactory or adequate identification of public relations."

What public relations is—as it applies to the police—is identified in primary terms in this and the next two articles which deal, respectively, with the "public" in police public relations, the "administration" in police public relations, and "the individual officer."

Mrs. Wheeler edits the "City Tells Its Story" pages of The American City *magazine, is an editor of* Tennessee Town & City *magazine, the author of numerous publications and articles on governmental public relations, a former newspaper reporter and radio news editor.*

PUBLIC relations is not a fancy "extra" tacked onto a police department when it has left-over time, personnel, or funds. Nor is it a last-resort activity to be called into play when the police department is under-fire from politicians or the public. Public relations is not a friendly smile from the policeman on the corner, the making of a report to citizens, or the holding of a tour of police department facilities—although a public relations program might involve all these.

Public relations is the total contact between the police unit in a community and its staff with the public the police unit is designed to serve.

GOOD public relations are dependent on adequate police services and facilities, and the skillful maintenance of appropriate two-way communication with the public. A police organization must have an ear for public opinion. It must have a way to tell its story to the public.

Elements in police public relations are the public (and the several sub-publics which the police deal with), the administration of the police unit (the attitudes, policies, operating procedure for which administration is responsible), and the individual officer (his training, background, understanding of human relations and personal characteristics). This series will cover each of these elements in police public relations, beginning with the public.

Law enforcement units and the men who compose them have no being except within society. It is the police department's reason for being. Society—the public—then, is intrinsicly involved in police planning, organization, and operation. Who the public is, what the public wants a police unit to be and do, what the public currently thinks (in a given community) of the police department, is basic data in consideration of police public relations.

THE SEVERAL PUBLICS

WHO is the police department's public? Illustrative of the groups with whom the police are involved are the following.

1) General population in the geographical area served by the law enforcement unit.

2) The "traffic public," people who own and operate automobiles and who use the public roadways to drive or walk.

3) Juveniles and the parents of juveniles (both delinquent and non-delinquent).

4) The business community—which receives special protective services.

5) Governmental administrators to whom the police officials are responsible.

6) Cooperating law enforcement agencies.

7) Minority groups—racial and religious.

8) Non-criminal law violators.

9) Criminal law violators.

Appropriate attitude of the police toward public No. 4, for example, will obviously not be appropriate for public No. 8. Each of these publics has special characteristics in relation to the police. Understanding this is prerequisite to establishing good rapport with the public in general and with the special publics.

To the general population, for instance, the police department's most important product is probably protection. The police unit is organized to protect the life, limb, rights, and properties of individuals who make up the general public. The public provides the money (through direct and indirect payment of taxes)

Address: Mrs. Pan Dodd Wheeler, Adviser, Municipal Information, Municipal Technical Advisory Service, Box 8260, University Station, Knoxville, Tennessee.

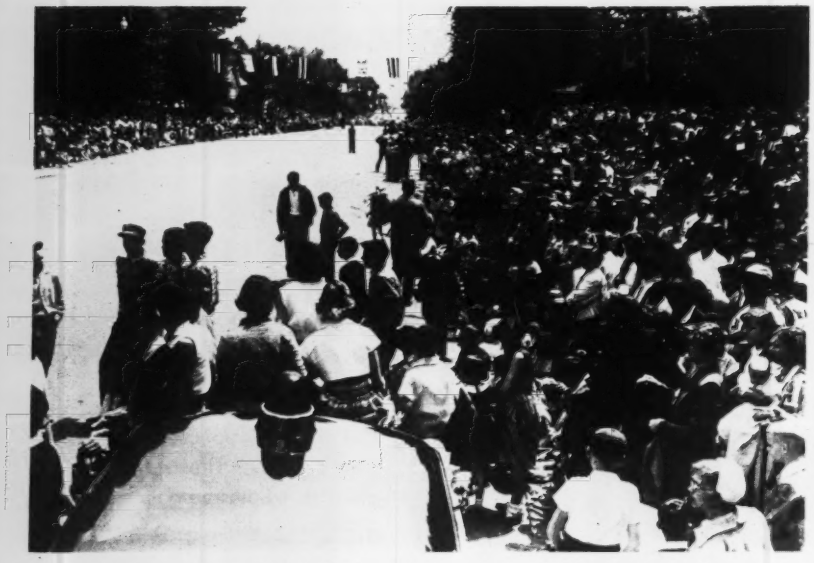


FIG. 1. A parade "public" like this one at Humboldt, Tennessee's annual Strawberry festival, looks to the police for minimum restraint, protection of life, property, and fun! Police contact results in good relations when it is adjusted to the need and mood of a particular public. (Photo—*Bryant Studios, Humboldt, Tenn.*)

which finances the police agency. In return for its investment, the general public wants and expects PROTECTIVE SERVICES.

The general public wants prompt response to a call for police help, to a request for information, to a complaint about poor or inadequate service. The general public reacts favorably, experience shows, to firmness, dignity, skill, and knowledge (such as an understanding of the law demonstrated by a police officer investigating property damage). The general public is positively impressed with disciplined friendliness, a "service attitude," and the display of appropriate respect for the average citizen.

The traffic public, on the other hand, views the police from a different angle. This public not only wants protection, and regulation, but it wants to move with minimum interruption and safety. It expects the police officer to expedite traffic flow.

The traffic public wants "trained officers," who understand how to speed up the movement of cars and pedestrians. They place value on courtesy, firmness, and dispatch. The public accepts gratefully, experience in cities indicates, regulations (such as the installation of parking meters when these accomplish rapid turnover of scarce parking spaces); traffic tickets (when these are followed through for all); establishment of new traffic patterns (when the reason for setting up these is made known); installation of signal lights (when these allow freer movement of cars and walkers or improve safety). The traffic public will support vehicle inspections—even the fees connected with such inspections—when these are fair, impartial, all-inclusive, and meaningful.

Defining the publics the police work with—and identifying the characteristics of each—is a first step in planning improvement of police public relations. This step can be accomplished through opinion surveys,

FIG. 2. "Mother's Patrol" member shares a fan letter, praising the work of the Nashville, Tenn., unit, with her superior, the head of the Traffic Control Section. School students, one of the publics with which police deal, respond well to women officers in this city. (Photo—*City of Nashville, Tenn.*)

sample polling, complaint-record review, pooling of ideas by experienced police officers, and through discussion with representative citizens.

CHANNELS TO REACH PEOPLE

HOW does the police department contact its public? Typical ways include the following:

1) Line-of-duty contact (the individual police officer with a member or members of the public).

2) Personal contact, off duty—the police officer is still a representative of the police department even when off duty, in the eyes of the public.

3) Via telephone—when a member of the police department is talking with a member of the public on the phone, he IS the police department.

4) Letters, tickets, notices—the written material of the police department to or for the public.

5) News media—what the local newspaper, the radio newscaster, the television news reporter says or writes about the police.

FIG. 4. People watch the police department act, not only on TV and through newspaper and radio reports, but as officers work at routine tasks such as explaining the operation of a parking meter to a citizen. "On the job" contacts of this sort are an important ingredient in police relations with the public. (Photo—*Tennessee Municipal League, Nashville, Tenn.*)

6) Talks—to groups, in person, or to the mass public via radio and television.

7) Radio and television programs—shows featuring the work of the local police and the national radio and television network presentations are influential public education media for police operations.

FIG. 3. A television program, like this one at WSPD-TV, Toledo, Ohio, gives the police a chance to tell the public about new equipment to make police services more effective. "Service" has a positive appeal for police publics. And a television program is an effective way to reach them. (Photo—*Hauger Photograph, Toledo, Ohio.*)

Evaluating these contacts with the public is a second step toward an improved relationship with the public. Again, public opinion polling, conference discussion, intelligent review of records and other data may be employed in such evaluation.

Obviously, during the processes of defining publics and evaluating contacts, the overall police department operation is under scrutiny. Are the existing police contacts appropriate? Are these adequate in terms of providing *enough* information, *consistently, to and from the public*? Do police operations fit the public's idea of what it wants and expects of a police department? Is policing effective (does it curb lawlessness on the part of certain sub-publics)? What public contacts are unsatisfactory and why? Do public attitudes need changing . . . or do police tactics (policy and practice) need adjustment?

FIG. 5. Appearance and efficiency of men and equipment are factors in police relations with the public. Up-to-date equipment like this radio-equipped motorcycle at Kingsport, Tenn., used in traffic control work, generates positive public relations for the police operation. (Photo—*Kingsport Times-News, Kingsport, Tenn.*)

WHAT THE PUBLIC THINKS

WHAT people think is so, is more important than what is actually so. (In the long range, of course, what Lincoln said is still highly valid!) Dr. Frederick Irion in his "Public Opinion and Propaganda" has said that "public opinion, more than any other force, determines how people think and act." He reports that, "if public opinion coincides with the facts, then man will act in accordance with facts; if public opinion rejects the facts, then man will deny facts as a basis for action."

Is the opinion—good or bad—about the police department based on fact or fiction? Does the public have access to facts? Does the department make facts periodically and attractively available to the public? Public relations are soundest where the response to both questions is yes.

If public relations are poor, though public information is readily and attractively available, police policy and operations may need adjustment and improvement. Good public relations grow out of, not in spite of, or as a cover up for, poor policy, administration, or operation.

TELLING THE POLICE STORY

ON the other hand, police departments with a sound program may not have good public relations because public relations "know-how" is lacking. Telling the police story well is a third step in improving rapport between the police and its public. Here the counsel of public relations people is valuable. These may include a committee—with media people (newspaper, radio, television staff members), citizen leaders, parents, businessmen. Or the counsel may be that of a professional public relationist whose background and skills are in public communication and human relations.

At random, from communities scattered throughout the country, here is typical action which has been taken in local police departments to improve police relations with the public.

In a town of 25,000, the police evaluated all its forms (traffic tickets, complaint forms, officer reports, police record sheets) which the public must fill out or use, asking about each form: is it easy to understand, is it easy to fill out, is it easy for a citizen or a police officer to use? As a result of this check-up, police forms were streamlined . . . and improved. So were relations with the public.

Police activity in a southern metropolis was a target for consistent and vigorous newspaper criticism which, in turn, created a hostile public. Frank study of criticism isolated this chief cause: politically-flavored appointment system and inadequate training of recruits. This city established a police academy, using FBI-trained officers as instructors. It revised employment practices. It kept the newspapers "in" on each step in the reformation. The police department morale has been improved. So has the police "press." So has the police department's public relations.

In a small community, the six-man police force failed to command public respect. Motorists did not comply with traffic regulations and citations. Parking meter revenues were alarmingly low. Petty crime and nuisances were on an increase. Police pay was low, but, in the opinion of citizens (polled by a radio newscaster) "the officers aren't worth what they do make!" An informal check of law enforcement policy, police regulations, training and personnel practices showed reasonable adequacy. Police officers did not, however, have or wear standard uniforms nor did they have suitable equipment. The town council was persuaded to purchase uniforms and equipment. The public now recognizes, and is apparently impressed by, the uniforms as a badge of authority. Respect for the police operation—on the part of the public—has improved.

In a state capital city, the city administration hesitated to make recognized needed improvements in a police headquarters building because of the attitude of two rival newspapers. When one newspaper backed or praised an act of the city government, the other condemned it. The public was split by these tactics. City officials did not wish to make a police building the "political football," and did nothing. The police chief, on the suggestion of a

FIG. 6. Public recognition, such as the presentation of safety awards, gives police officers and their work spotlight attention not often available to them. Media coverage of events like this presentation to Humboldt, Tenn., city officials helps form good public opinion about police work. (Photo—*City of Humboldt, Tenn.*)

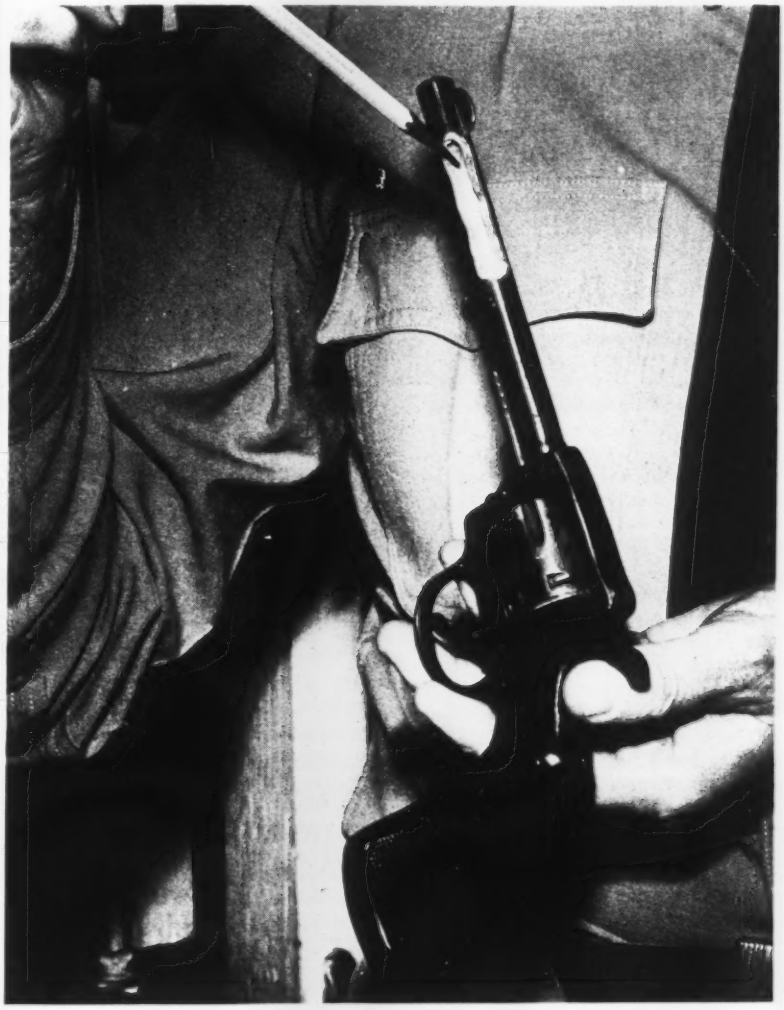
citizen advisory committee, planned an open house at the old building with a conducted tour of police facilities. The public was invited. Those who came received a simple but complete booklet describing the work of the police department. It was evident to the people who took that tour, and read the booklet, that the police building was inadequate. A new and more adequate police building is now under construction. The public was aroused by facts and it demanded action. Both newspapers supported the new building.

In an economy minded city of 19,000, the city manager recommended an improved pay scale for police officers. Council agreed the increase was warranted but was convinced that the "public wouldn't stand for it." In cooperation with police officials, the city manager collected data for a story, "Mr. Composite Cop," which was carried in a Sunday supplement of the local newspaper. The story covered comparative police salaries in other cities, a breakdown of how the average police officer spent his meager salary, what more adequate salaries could mean in terms of improved morale and recruitment and retention of good police officers. The public asked for action. The police salary scale was subsequently revised upward with cooperation from the citizens.

Prerequisite to each of these public relations acts was a recognition of the public (and its characteristics) in the particular community, an evaluation of public contacts (channels through which the police reached the public), critical examination of the police program (to determine what needed improvement and in what way), and the use of public relations skills to attract, hold, and influence the public.

Within democratic society, where the public ultimately decides on the kind of police department it will have, the public (and sub-publics) are of basic concern in police public relations.

See the next issue of POLICE for Part 2. Police Public Relations—The ADMINISTRATION of the Police Unit by the same author. (Ed.) ★★★



Double Jeopardy

Investigators are never surprised at the variety and condition of firearms encountered in homicide investigations. The .22 caliber revolver shown was the weapon used in a fatal shooting in which eight bullets were fired into the victim's body. Shells were ejected at the scene.

The suspect left the state armed with the weapon and let it be known he would not be taken alive. He engaged deputy sheriffs in a gun battle at a road block in an adjoining state. He lost.

It was learned from members of the family that the barrel of the gun had been in the condition shown for a long period of time before the shooting. Test bullets were fired from the gun in the laboratory and satisfactory specimens were obtained for comparison although approximately one-half of the barrel was missing at the point indicated by the pencil.

The photographer overcame objectionable highlights and reflections and brought out detail of the fracture and bore of the gun by dusting with gray powder and blowing off the excess with an air blast. The technique is very effective for some photographic purposes where irregular metallic surfaces are being photographed.

(Courtesy, Lieutenant Walter R. Scott, San Diego Police Department.)

The "Gentle" Sex Murderer

A Special Problem of Investigation

By James M. Reinhardt

EDITOR'S NOTE: *The following article in more condensed form appeared in the* Nebraska Alumnus *for September 1955, where it attracted much favorable attention. It is altogether appropriate that it be made available to a more extended audience. Dr. Reinhardt is Professor of Criminology at the University of Nebraska. Author and lecturer in the fields of Social Psychology, Criminology and Abnormal Behavior, he brings to the task a wide and mature experience in the study of these problems. Recognized as an authority in the field, his services are in continuous demand as a lecturer in law enforcement training programs.*

These assignments have included the Homicide Seminar of the Medico-Legal Division of the Harvard Medical College and since 1945, the National Police Academy of the Federal Bureau of Investigation, Washington, D. C. He is the author of Sex Perversions and Sex Crimes *now on the press and scheduled for early publication as a part of the Police Science Series published by Charles C Thomas, Publisher. Watch for a second article in a forthcoming issue from Dr. Reinhardt's pen written exclusively for* POLICE *under the title,* Sadistic Murder.

EVERY experienced investigator knows that one of his most reliable allies is the criminal's habits of behavior. Every individual tends in the course of time to acquire certain unique likes and dislikes, certain prejudicial ways of interpreting the world about him. He likes certain kinds of people. He has certain food preferences, preferences for certain kinds of girls: blondes, red-heads, fat girls, slender girls. Moreover, the individual's ways of saying things, of writing, of spelling certain words, numeral habits, as for instance, the tendency to combine in different forms the same numbers, or to use in different combinations some of the same letters as in *aliases*. These are all allies of the investigator. Most important of all is the criminal's *modus operandi* where he has a record of previous offenses. No criminal, not even a "professional" one is pliable enough to escape his own unique habits or to change his *modus operandi* with every offense. Indeed, the "professional" criminal is proud of his *modus operandi*. He takes pride in the fact that it belongs to him. It is his way of expressing satisfaction with himself and of acquiring *status* with criminal associates.

Address: Professor James M. Reinhardt, Department of Sociology, Division of Criminology, University of Nebraska, Lincoln 8, Nebraska.

NO MODUS OPERANDI

The sex murderer of the type to be discussed here leaves no habit, and *modus operandi* clues as ordinarily defined. His observable ways are at variance with his criminal ways.

The compulsive sex criminal differs from all other criminals in respect to the fact that the psychosexual nature of the compulsion that drives the individual to commit the crime negates any personal sense of pride. Pride in achievement whether criminal or otherwise has sociological significance. The sex criminal alone commits his fiendish act without any sociological "linkage." Even the most bungling thief, burglar, or robber expects some personal advantages from the crime. He may hope that the criminal operation or the gain will enhance the ego and give him a position, however so small, a little better than the one he had before the crime. In other words, detestable as the crime may be, the desires which motivate the criminal are in a way of the same general class as those that motivate law-abiding men: ego satisfaction, personal enhancement and *status*. This is true even though the criminal holds the law in contempt and walks in fear of law-abiding men. It is this basic commonality of desire and the fact that most criminal acts have some social "linkage" that make it possible to apply the rules of common sense and experience to criminal investigation.

MANY VARIETIES OF SEX CRIMINALS

There are many varieties of sex criminals. They depend somewhat upon the variability and enforcement of law. We are concerned here with a type of sex criminal, fortunately rare, whose criminal act is so *fiendish*, and driven by motives that lie so completely outside the range of normal human imagination, as to defy the accepted rules of criminal investigation. I am speaking of the sex sadist whose cruel cravings drive him finally to the murder and mutilation of the object of his diabolic desires. There are many levels of sexual sadism and there are probably many more sadists moving unhampered in our society today than most of us would guess. Fortunately, the great majority of these are satisfied with mild inflictions of pain such as biting, slapping, pinching and even simulated forms of punishment. As the records show some of these do occasionally break over and commit brutal murder. Given an understanding and reciprocating mate, or access to an acquiescent prostitute, these mild sadistic types may reach old age without open conflict with the law.

The brutal sadist that concerns us here has no record of sex criminality, no acquired *modus operandi*, and his first sadistic crime is likely to be fiendishly brutal. It is hard for the ordinary person conditioned to the sexual ways of ordinary men to grasp the nature of a sadistic murderer. The problem is even more difficult if the murderer has committed no known previous offense. All such murderers are unique in one respect: they have lived many years in a world of cruel and grotesque *fantasy*. If we could actually see the strange and brutal *fantasies* on which the imagination of such murderers has played for years their behavior would not be surprising. A difficulty of investigating such types is in the fact that the motivational content behind the crime has been built up over a period of years beneath a gentle and oftentimes pietistic timidity.

The trained investigator is accustomed to studying crime scenes, criminal *modus operandi*, criminal records, movements, places, and motives. His undercover activities have depended largely upon his ability to secure the confidence of crooks whose records and intent stand out for investigation in the world of observable reality. The investigator cannot work his way into the mind and intent of the sadistic murderer by assuming his identity or by playing the role of the suspect. What is more, it is difficult, if not impossible for the investigator to get substantial help from law-abiding citizens for they, too, judge by outward appearances. They cannot believe that such a mild tempered, poetic natured man could commit a crime so brutal as to be entirely outside the range of their own imagination. "Why" one citizen told me "nobody could make me believe that that gentle man could commit such a crime." Said he, "I knew him in Sunday School as a boy. . . . he is one of the most religious men I have ever known." How can an investigator "hound" a murderer like that?

This is what the killer saw as he left the scene of his crime. In August, 1947, X, 17 years old, was convicted of the brutal, sadistic murder of this little 7 year old boy. Photographs showing the lower portion of the body are withheld but reveal the marks of the sadistic attack. The murder was committed in the loft of an old building near an alley. X had enticed the little boy in on the pretense of teaching him how to smoke a cigarette. X had wandered rather widely over the middle west from Ohio to Colorado. He had been previously arrested and had been given several psychological and psychiatric examinations, but nowhere in his record, prior to the murder of the little boy, is there a suggestion that he exhibited any of the characteristics of a compulsive sex murderer.

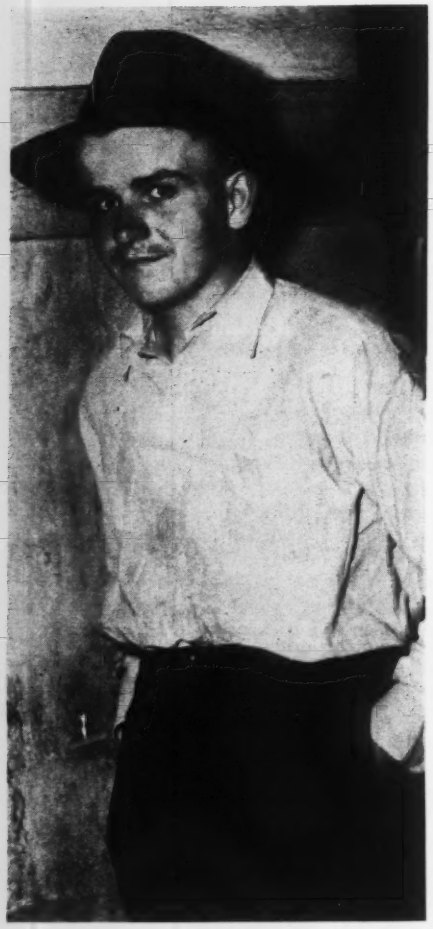
A few months prior to the brutal murder of this youngster, he had been released from a state mental hospital. The report of the hospital authorities contained the opinion that he was a psychopathic personality, but there was nothing in the report to suggest that the hospital examiners believed him to be capable of a sadistic murder. In my interviews with him he revealed a prolonged history of morbid sex fantasies.

Indeed, for many of the type of which I speak here the very use of the *fantasy* scenes have not only protected the exterior from suspicion but have preserved its moral content, until finally the pressure under the right stimulating circumstance, and sometimes with a little alcohol, breaks over into fiendish murder. It is amazing to discover how safe such murderers have felt over a long period of years protected by their little world of cruel *fantasy*. Here the individual could find outlet without the world knowing it. Like the drug habit, however, the absorbing *fantasies* become more grotesque and cruel until there comes a time and an occasion when desire can no longer be contained within them.

MUTILATION BY OTHER TYPES OF CRIMINAL

It is a mistake to assume that in all cases where there is evidence of mutilation the murder was committed by the type of sadist discussed here. Sometimes there are complications of motives including uncontrollable jealousies, hostilities, anxieties, etc., only one of which is sadistic in the sense used here. We do know that latent sadistic tendencies may find outlet in a rage of jealousy.

I am suggesting that for the hitherto unsuspected sadistic murderer the investigation may well turn from surface evidences to the deep inner workings of the suspect's mind. Such investigation is not al-



George Lee, the murderer of 8 year old Charles Mulholland, July 14, 1947.

ways easy, neither is it always as difficult as may appear. As with the tricks of the mind in the case of the more accustomed criminal types the cruel *fantasies* that play behind the curtain cannot be entirely hidden to one who knows how to search for them. One familiar with the little stair-way openings to the cruel sadist mind may be able to find evidences of the *fantasies* that built up for the final cruel act. No single overt trait or tendency or, for that matter, no combination of such traits offers conclusive evidence but they do provide a basis for sharp and discriminating interrogation.

On the basis of my own extensive investigations I am convinced that all such sadists have somewhere along the road suffered a tremendous loss of confidence in themselves. In spite of an acceptable outward show they reveal histories of deterioration away from the world of fact and toward a "world" of unreality. They often tend more and more to avoid normal social engagements. They find increasingly frequent excuses for avoiding the company of normal people and sometimes of particular kinds of people, as for instance those of their own age. What is more they tend to show a decreasing interest in the broader aspects of community welfare, though not unusually such a one may be profoundly religious. These are some of the characteristics that may well be explored before a suspect is eliminated, in the absence of substantial material evidence, because "he is not the kind of man who could commit such a deed."

The investigation might well carry the investigator into the individual's social history, personal relations and occupational background. It is indeed difficult for one whose sadistic *fantasies* are driving him toward a brutal murder to keep his behavior totally unnoticed by the close members of his own family and particularly from his wife, if he has one. The investigation may lead to the most surprising arenas: e.g., the company of strange prostitutes in the most weird surroundings.

Some years ago a young girl was found brutally murdered. She had been murdered and mutilated during a period of menstruation. The murderer was finally apprehended through the cooperation of the keeper of a house of prostitution where, as it turned out, he had gone routinely in disguise over a long period of time and demanded and secured the services of a girl who was menstruating. In this instance the murderer was a man who had exhibited deep religious feelings. He was quiet, gentle and rather timid and he had no record of criminality or of discreditable behavior of any kind. It is significant in this case that the murderer's access to menstruating women had been cut off prior to the murder of the girl.

CHILDHOOD BACKGROUND FOR CLUES

The investigation may carry the investigator into the childhood background of the suspect. Boys who have grown up under prolonged intimidation and social sallowness, with little opportunity for normal emotional outlets may become overwhelmingly excited under conditions that would hardly be out of the ordinary to people more happily conditioned to a world of reality. Where the religious training is of an extremely fanatical nature the very drabness of the environment and the inhibitions that the religious fanaticism imposes may drive the individual, early, to the substitution of *fantasy* scenes for the normal outlets denied to him. Such a one, in a moment of great sexual excitement and under the right provoking circumstances, might be a prey to vicious cravings that would never exist at all in a happily adjusted person. In such people, conditioned by horrible *fantasies*, the exciting moment inhibits all competing impulses if indeed they have not been eliminated in the process of the compulsive development. In such instances an investigation that might get nowhere following the usual lines of interrogation might well strike pay dirt in the exploration of the individual's earlier anxieties, impulses, and desires.

I am not now speaking of known fetishists who murder for the sake acquiring a fetish part of the body and who may simulate the appearances of a sadistic mutilation at the scene of the crime.

With respect to the type of sex criminal discussed here social position, occupation, intelligence and formal education may offer little in the way of workable clues to identification. Over and again such pathological degenerates are so well shielded beneath a commonplace exterior as to make it extremely difficult for the investigator to bring himself to the task of seeking out the unusual and abnormal in the secreted life of the individual. ★★★

The Police Officer As a Witness

By Walter L. Oblinger

EDITOR'S NOTE: *Mr. Oblinger graduated from the Chicago-Kent College of Law in August of 1939 with a LL.B. degree. He entered the service of the Federal Bureau of Investigation as a special agent on October 22, 1939, and resigned on September 5, 1951, to take up the private practice of law in Springfield, Illinois.*

While associated with the FBI, he saw service in Pittsburgh, Pennsylvania; San Antonio, Texas; Washington, D.C.; Detroit, Michigan; and Springfield, Illinois. He also was on a special assignment in Cleveland, Ohio, and in the State of New Mexico. He was a police instructor for the Bureau from 1947 to 1951, and has lectured to many police departments on police subjects.

Mr. Oblinger is now engaged in the general practice of law, but from time to time he has made investigations for private agencies and attorneys, as well as for the State's Attorney of Sangamon County, Illinois on important criminal matters.

MANY a conviction has been lost on the witness stand. A careful and good investigation will go for nought unless some thought and attention is given to its presentation in Court. Unfortunately a police officer's duties do not end with the apprehension of the guilty person. He must in addition to his other skills possess some knowledge of how to present his case in court. He should realize that in this facet of police work his testimony must pass the scrutiny of some of the smartest lawyers at the Bar and prepare himself accordingly.

PREPARATION FOR COURTROOM TESTIMONY

The best preparation for courtroom testimony is to acquaint yourself with all phases of the investigation and to prepare yourself to testify as accurately as possible to the facts as you know them. Refresh your memory as to dates, places, and names so that you can be specific and accurate in your answers. Of course your notes should be in order with the date, place, and initials appearing thereon. They should be gone over to see that the abbreviations and symbols are understood and that there are no conflicting statements to cause you possible embarrassment on the stand. The notes should be placed in a pocket by themselves so that when you are called upon you can, with a minimum of fuss, go to the right pocket and produce them.

Sometime prior to the trial, if at all possible, you should go over your testimony with the prosecuting attorney. He should be aware as to just what investigation you have conducted and about what you are competent to testify. This is particularly important. If you leave the stand without having testified that you developed a latent fingerprint or made a plaster cast of a footprint, he will be unable later on to recall you to fill in the missing testimony in order to establish a prima facie case against the defendant.

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PHYSICAL APPEARANCE

Your job on the witness stand is to testify as to the facts and to aid the jury to a right determination of just what did happen. In order to do that, you first have to "sell" the jury that you know what you are talking about and that you have no particular axe to grind, that you are truthful, honest, fair, impartial, and with personal standards which do not permit you to do anything which you would consider false, dishonest, unfair or partial. In order to create this impression it is necessary to do several things. One of these things is to pay particular attention to your personal appearance.

If you are a patrolman, by all means wear your uniform to the witness stand. People instinctively have respect for and secretly envy the man who wears a uniform. If your uniform is pressed, clean, your shoes shined and your brass polished, all the buttons are in place and properly buttoned, you have a distinct advantage as a witness over other witnesses. The jury individually feels proud that such a snappy police officer represents their town. They feel that a man with such high standards of personal appearance would not consciously tell an untruth or stoop to ungentlemanly conduct. That is, they will start out with this presumption in your favor until such time as you do something on the witness stand to destroy this impression.

Do not wear firearms in the courtroom. The proper thing to do is to remove your holster and gun and hand them to the bailiff or clerk of court. This shows that you consider yourself amenable to and subservient to the law and to this court and jury who are here to administer justice according to law. You subtly flatter the court and jury by so doing. You may create the impression by not removing your firearms that you consider yourself above the law and in contempt of it. When you go into a courtroom, avoid the Gilbert and Sullivan impression you may create by wearing a belt bearing gun, shells, handcuffs and blackjack. If you ordinarily move in a community where such a display of force is the proper thing to do, on this one occasion please leave them at home. The jury

may be sensitive to the inference that they live in a lawless community—whether it be true or not.

Now, having created a favorable impression with the jury, don't destroy it by fidgeting and moving around on the witness stand. Sit erect. Be as natural and comfortable as you can under the circumstances, without overdoing it, of course. Avoid all nervous habits which will detract from your testimony. How many of you have seen witnesses who nervously wet and click their lips; play with anything they can get their hands on; cross and recross their legs; run their hands through their hair; pull at their collars; fidget in their chairs; jingle change; sink their chins in their hands or even cover up their mouths with their hands so that the jury cannot hear what is said; slink down in the witness chair; or look out the window? All of these things go to create an unfavorable impression on the jury. They may think the man doesn't know whereof he speaks or is even testifying falsely. A police officer especially creates a poor impression when he does any of these things. The public generally expects him to be a man unafraid of anything or anyone, including the defense attorney. The spectacle of a police officer slinking down in his chair is particularly distasteful and unpalatable.

ATTITUDE AND APPROACH

Now, bearing all these things in mind, just what attitude should the police officer cultivate when he gets on the stand? Should he be belligerent, argumentative when questioned, eager, taciturn, or helpful? The police officer should bear in mind that it is his function to find the facts, to present the truth, to serve as an instrumentality of the court to find the facts so that the law can be applied to them. Bearing this in mind he will realize that his only function is to present the facts, that it is the prosecutor's job to prosecute violations of the law that he feels these facts represent, that it is the function of the judge and jury if they believe that these facts did happen, to convict the accused and to determine the punishment. Accordingly after having presented the facts, the officer should school himself in the realization that it is someone else's responsibility from that point on. Do not sit at the State's Attorney's table unless he requests you to do so. Remember in testifying that you are an impartial fact-finder and that you are going to testify to the truth regardless of whom it might hurt and regardless of what the consequences might be.

TESTIMONY IN CHIEF

In testifying present the facts as clearly and as simply as you know how. Answer the questions fully but do not volunteer anything. On volunteering information may I refer you to an actual case involving a law enforcement officer who volunteered that the subject, a woman, "obviously was a prostitute." The Defense Attorney recognized his golden opportunity and charged in. He asked the officer how he know she was a prostitute. The witness replied he could tell one when he saw one. The

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From: *Daily Training Bulletin* of the Los Angeles Police Department, W. H. Parker, Chief.

Defense Attorney asked him if he could pick one out of other women on the street. The officer replied that he could. The Defense Attorney after a recess paraded five women into the courtroom and called on the officer to point out the prostitutes, if any. Of course the officer picked out the wrong woman and he was really embarrassed. The Defense Attorney was able to show up the witness and turn the trial upon an irrelevant issue. I'll let you guess who won. The officer, of course, was fed up with defense protestations of purity and was trying to seize an opportunity to set things right. That was not the time, the place, or the method to be used in such cases.

Pause slightly before you answer. Avoid the appearance of eagerness and the impression that you can't wait to get this guy convicted. Wait for the prosecutor to finish stating his question before you attempt to answer. If an objection is interposed, wait for the ruling before proceeding to answer. Present facts from which the jury may draw conclusions. Avoid stating conclusions in your answers. What do I mean by conclusions? In a recent case I heard a police officer asked to describe the doorway of an office which had been burglarized. The officer stated in his answer that the door had been "jimmied." The Defense Attorney objected and the objection was sustained. The question was rephrased and the witness stated that "the door looked like someone had taken a jimmy and had forced the door open." The answer was again objected to and objection sustained. What should the officer have said? He should have described the condition of the edge of the door, giving the dimensions of the marks in the door and let the jury reach the conclusion that the door had been jimmied. Another illustration is the question, "Had the defendant been drinking?" Some witnesses will answer, "Yes, I would say that he was drunk." The proper answer would be, "Yes, I smelled alcohol on his breath and noted that he was unsteady on his feet and that he talked in an irrational manner."

Testify for the benefit of the jury. Direct your testimony to them unless answering a specific question by the Judge. The Jury is the judge of the facts. Avoid facing the Prosecuting and Defense Attorneys and carrying on a conversation with them. Speak clearly and in sufficient volume that your testimony can be clearly heard in the rear of the courtroom. After all, you are officers of the law and it is not in character to be timid.

Where you do not get the point of a question or you have a momentary lapse of memory do not foreclose further questioning along these lines by saying "No," or "I don't know." Say instead, "I don't remember." If your testimony on this point is important to the case, the State's Attorney can direct further questions, hand you a report or notes to refresh your memory after which you can testify from your refreshed recollection.

Be alert in the phrasing of your answers. If the State's Attorney asks you a question answerable by a "Yes" or "No" answer and your answer is contrary to what he

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expects but you have an explanation, give him a cue by answering, "No, but." You will probably be stopped by an objection from opposing counsel but the State's Attorney will then know that there is something else to be brought out. The classic example along these lines is the case where the weather expert was called to testify concerning the weather. The plaintiff was claiming damages from a railroad. He claimed that on the day in question snow was falling and that the company did not take proper precautions to protect the workmen who apparently were engaged in maintenance work in a tunnel under a mountain and that as a result he was injured. The defendant called the witness who was asked to testify concerning the weather on that date. He testified that the weather was clear and cold. The plaintiff's attorney did not think to question him on the point. The witness later confided that he could have testified that while the weather outside the tunnel was clear and cold, inside the tunnel the steam from the steam engine turned to snow as it hit the cold air and that to the workmen it appeared as snow.

If the State's Attorney ever makes the mistake of asking you a question concerning matters requiring testimony of an expert and you are not qualified to testify don't ever make the mistake of answering even though you may know the answer by hearsay. For example, you may be testifying relative to latent fingerprints you may have developed and he may ask you if they are identical with those of the defendant. In this situation the Defense Attorney can really go to town. He may cross-examine you on the Henry System, ask you to differentiate between a whorl, a loop and an arch. He may ask you to explain what 32 over 32 means. If you are not a qualified expert, do not undertake to testify.

CROSS-EXAMINATION AND TRICK QUESTIONS

It is a normal and understandable reaction for a police officer to more or less feel that he is being thrown to the wolves when he is turned over for cross-examination. The officer involuntarily feels that he is about to be attacked instead of tested and that the Defense Attorney is going to try to destroy the testimony he has just given. You should remember however that while you yourself may have testified in a truthful and as accurate a manner as possible that still there are witnesses who testify that are honestly mistaken, those who exaggerate, and others who testify falsely. For this reason a witness is subject to cross-examination. Just remember that you have nothing to worry about if, (1) you are truthful, and (2) you are accurate. Regardless of what the Defense Attorney does or how he phrases his questions you are then in a position to testify to what you know. At all times maintain your attitude of helpfulness and of being the court's fact-finder and attempt to maintain the same attitude you possessed when testifying for the State's Attorney. Through your unbiased and impartial attitude you may create sympathy for yourself with the jury when the cross-examiner attempts to take advantage of you.

The purpose of the cross-examiner is to show the witness testified honestly but was mistaken; the witness testified correctly as to the facts but exaggerated either consciously or unconsciously; the witness confuses two events or two circumstances so that an erroneous conclusion is reached; the witness observes incorrectly; the witness has an unreliable memory or confuses memory with inference; through bias or friendship the witness exaggerates or feels justified in testifying to a partial untruth; or, the witness commits outright and deliberate perjury.

Now, if the Defense Attorney calls your attention to a small error in the testimony or a possible misuse of a word, do not hesitate to correct your testimony. "I did not say what I intended to say." "I meant to say possibly instead of probably." "Would you mind if I rephrased my answer." In this way you avoid a contest on a minor point which the Defense Attorney can use to make you appear ridiculous and destroy your testimony. Do not argue and above all do not lose your temper. If the Defense Attorney can embroil you in an argument or get you to make some sharp retort he has largely succeeded in destroying the effect of your testimony. If he makes a mistake in the phrasing of the question it may be the better part of discretion to give him the right answer or to ask the counsel if he would prefer to rephrase his question. In this way you convince the jury that you are a fair, upright and impartial witness.

Be alert for the appearance of trick questions. "Have you discontinued beating your wife?" The proper answer to this question is, "I cannot answer the question by a 'yes' or 'no' answer." The Defense Attorney may even ask you if you think the defendant is guilty. Reply by stating you have no such opinion. He is only trying to bring out bias and prejudice on your part. He may ask you with whom you have discussed the case. Answer frankly that you have discussed the case with your superior officer and the State's Attorney. This is a question designed to show that your memory is poor and that you are reluctant to testify fully. ★★★

GROWTH OF THE USE OF CHEMICAL TESTS FOR INTOXICATION IN THE UNITED STATES

Year	*Cities Over 10,000 Population Using Chemical Tests*	*State Agencies*
1945	51	16
1946	72	18
1947	94	21
1948	105	20
1949	160	27
1950	167	40
1951	242	42
1952	369	42
1953	464	42
1954	533	42
1955	588	42

The above information was obtained from reports to the annual inventory of traffic safety activities conducted by the National Safety Council. The above totals do not include approximately 150 cities in the population group between 5,000 to 10,000, that are now using chemical tests to determine the degree of intoxication of suspected drivers. It is known that many counties are also using chemical tests.

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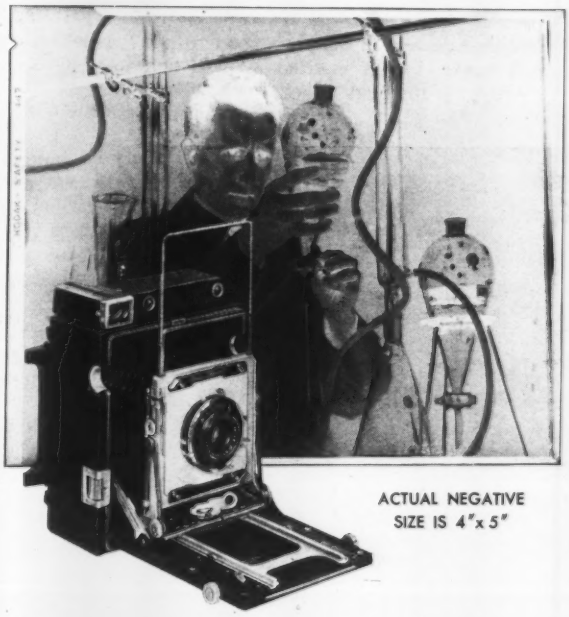

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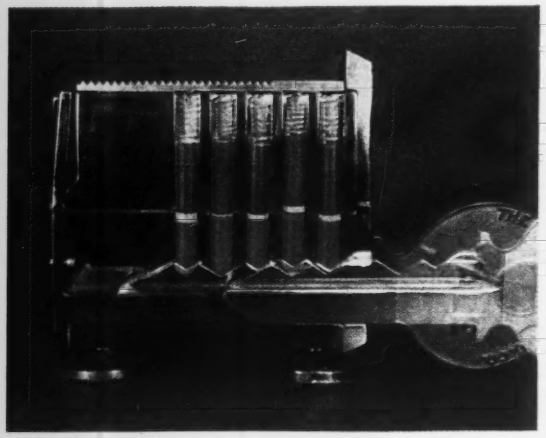
A scattering of 17th century ornamental keys, representative of the era when everything tended to useless decoration.

Double exposure reveals how modern pin-tumbler lock works. Key is inserted in lock, and turned, pushing up tumblers which frees the mechanism.

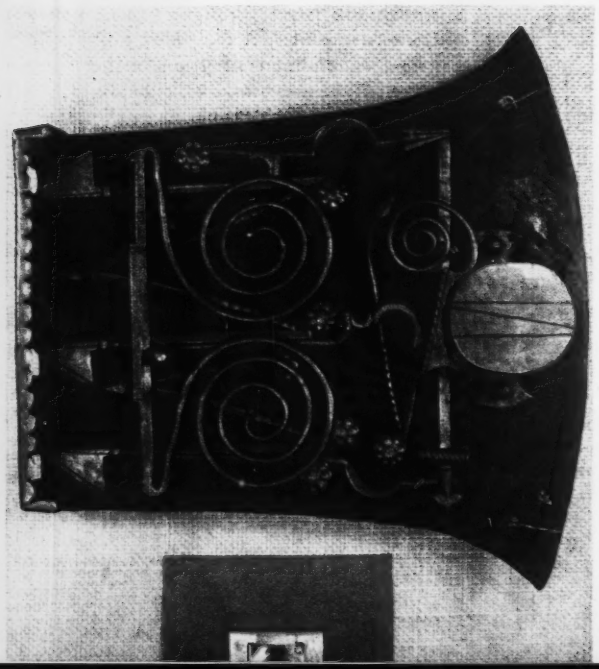


SECRETS OF SECURITY

Warbound Crusaders first clamped a lock on milady. Since then man's inventive genius has kept on improving ways to stymie itchy-fingered intruders

By SID LATHAM

Locks courtesy Yale & Towne collection



This elaborate German chest lock dating back more than 400 years is compared with today's lock which operates more efficiently.

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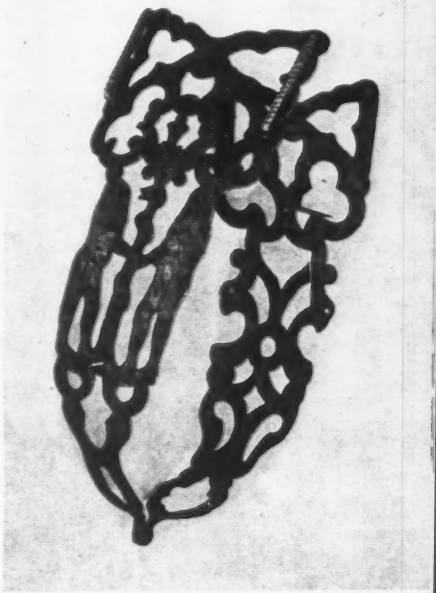
A great many thousands of years ago a hunter wearing a bearskin and carrying a stone club left his cave and started on a day's hunt. He returned to find that a predator had invaded his home and made a meal out of his family. Realizing at that moment that not every animal could be trusted, he pushed a large rock in front of the entrance to his cave. Thus was born the first lock. Security devices have come a long way since then, but the principle is still the same: to keep cherished possessions safe, you have to lock 'em up.

Ancient Egyptians, those ever-inventive people, were the first to design a lock-and-key. This ancient forerunner of today's pin-tumbler lock, worked out by Linus Yale, Sr., had wooden or iron pins that dropped into holes in a sliding bar or bolt. It was impossible to draw this bolt unless a key was inserted, lifting the pins and freeing the bolt. Crude, yet workable, locks of this kind are still used on Near-Eastern doors.

Much of the history of the development of the lock is obscured by myth and legend, but archaeological evidence uncovered at Khorasbad in ancient Babylon, and at the temples of Karnak in Egypt, point to the birth of the lock at around 4,000 years ago. This Egyptian lock had one bug: it could be only opened from the inside. However, any man who could afford a lock for his door could also afford slaves, and when the master wished to enter his own door he merely rapped and the slave pulled the bolt from the inside.



Centuries later, the wily Greeks perfected a lock that could be opened from the outside of the house as well as from the inside, but the Greek system had a grievous fault as well. The key to the door was made in the form of a reaper's sickle, and was so large it had to be carried across a man's shoulders.

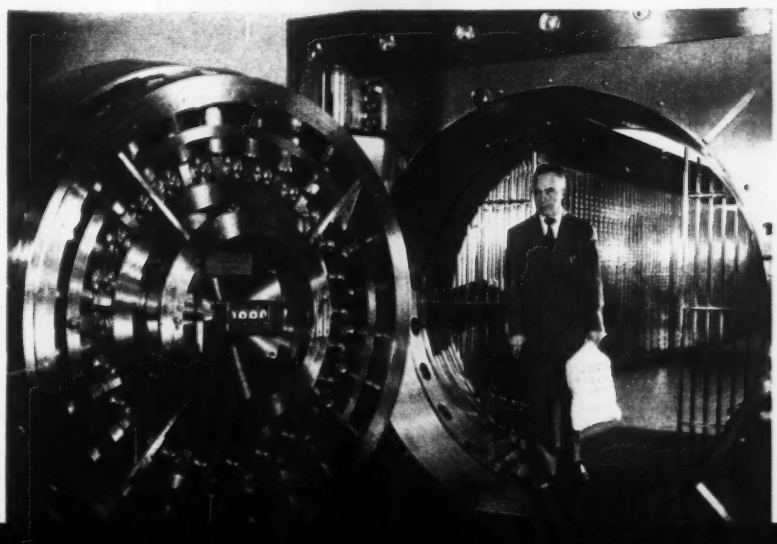
This insanity persisted until the Romans, who were even smarter than the Greeks, went to work and perfected the lock so that keys could be made small enough to be carried in one hand. Being skilled craftsmen, the Romans started fashioning locks from iron and bronze. These, they found, were better raw materials than wood, and made it far tougher for housebreakers. Even by today's standards these old Roman locks are magnificent examples of workmanship and beauty.

The Chinese went the Romans one better and solved the key problem by eliminating the key altogether in lock designs that worked by combinations of letters and numerals or strange symbols. This, of course, was the forerunner of the modern combination lock.

So far, through the centuries of evolution in lock design, the emphasis had been on making locks and keys smaller. But during the Middle Ages the trend started the other way, and locks and keys became gigantic, cumbersome affairs that required two men and a boy to work. It was nothing for a key to a lock on a castle door to be fully a foot long, and made of solid iron. But it was in the making of strongboxes that the locksmiths outdid themselves. They reasoned that if one bolt was good, 10 or 12 would be better. The workings became so complicated that if the owner lost the master key that opened the whole business, the only solution was to dump the thing in the moat and forget it.

But of all the weird security devices that came into being during the Middle Ages, none is as famous as the legendary chastity belt. In theory, this cumbersome,

(Continued on page 24)

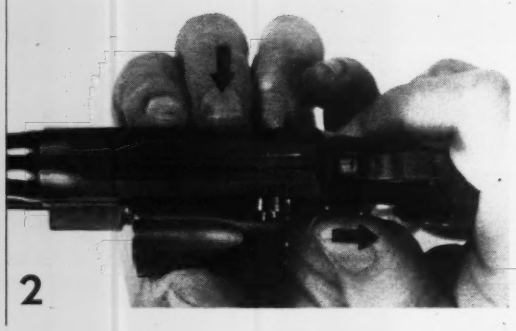


Top security device is this mammoth door to the vault of the Manufacturers Trust Company in New York. Built in solid rock, little less than an H-bomb would be required to force the door.

Handling Revolvers*

By Walter J. Howe

1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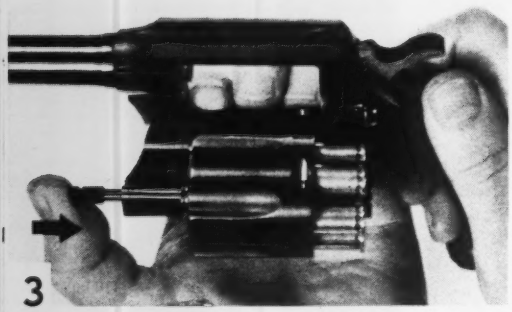
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FIGURES 1, 2, 3. The revolvers shown in Figures 1 (Smith & Wesson) and 2 (Colt) are typical of modern swing-out cylinder revolvers. To open cylinder the gun is held with both hands (Figure 1) with the first two or three fingers of the left hand pressing lightly against the cylinder. As this pressure is being exerted the thumb latch is moved—forward in the case of the Smith & Wesson, rearward in the case of the Colt. This permits the cylinder to be swung out. Once it is swung out the ejector rod is pushed with the thumb of the left hand (Figure 3). This brings the cartridges or empty shells out far enough to be picked out with the fingers. In closing the cylinder on these revolvers the reverse of the procedure for opening is used. Under no circumstances should the cylinder be slammed shut. This tends to bend the crane and throw the cylinder out of alignment with the barrel.

FAMILIARITY may breed contempt under certain circumstances but such is not the case when dealing with firearms. The person who knows how to unload, load, and "operate" guns properly is 'way out in front when it comes to gun safety.

It is a pleasure to watch a man who knows his guns when he is handed a firearm. He goes at once to the right "button" or "latch" and in few deft motions the breech is opened for his scrutiny. Although done quickly, at no time is there any "show off" attitude accompanied by unnecessary slamming or banging of the mechanism.

Both from the standpoint of safety and usefulness there is no substitute for knowing. On these two pages is shown the proper way to handle a revolver. The types illustrated are the most common in use today. There are a few other types one will see from time to time but they will be mostly among the collector's specimens.

In general it can be said that when in a proper operating condition nothing need be forced to have a revolver open, extract, and close easily. When an unusual amount of resistance is encountered it is usually fair to assume that the wrong button is being pushed or it is being pushed in the wrong direction. Do not press or move parts believing that the proper solution will be stumbled on. Above all, keep fingers away from the trigger unless positive determination has been made that the gun is unloaded. In some types of revolvers it is necessary to bring the hammer back to either the half cock or loading notch before the cylinder can be removed or checked for cartridges in the chamber. This action is necessary to withdraw the nose of the firing pin fully within the frame.

If a cocked revolver is presented for inspection, the first thing to do is to point its muzzle in a safe direction and carefully let the hammer down. This is done by grasping the gun firmly in the right hand, low on the grip, with the right thumb holding the hammer back. With the right index finger squeeze the trigger to release the hammer. Slowly let the hammer down and after it has traveled about half its way, take finger off the trigger. With the finger off the trigger, gently let hammer down the rest of the way. By releasing pressure on the trigger as noted above, the hammer will come to rest so the firing pin will not protrude beyond the face of the breech. Thus the firing pin will not contact a cartridge should there be one in the chamber.

* *Courtesy, Walter J. Howe, The American Rifleman, 1600 Rhode Island Avenue, N.W., Washington 6, D. C.*

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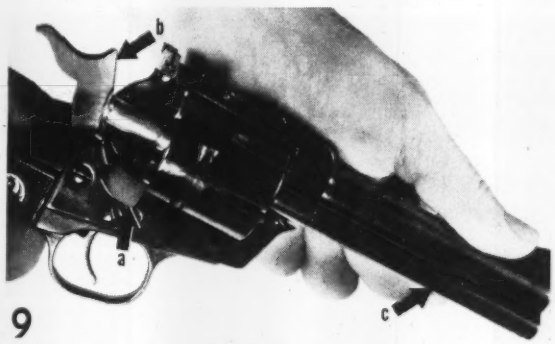
FIGURES 6, 7, 8. Figure 6 illustrates a typical top-break revolver with latch indicated by arrow. To open, hold as shown (Figure 7) with the thumb and index finger of the left hand lifting the frame latch. In most guns of this type there is an ejector actuated by a cam. Thus as the gun is opened the cartridges are automatically extracted (Figure 8). When unloading guns of this type it is often convenient to "dump" the cartridges on a table by turning the gun upside down. This prevents the cartridges slipping under the extractor rim as occasionally happens when the gun is held upright.



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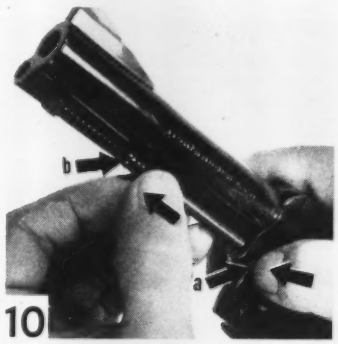

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FIGURES 9, 10, 11. The Ruger single-action revolver illustrated in Figure 9 has a loading gate (Figure 9a) and base pin arrangement (Fig. 10b) that is found in a great variety of non-swing-out cylinder revolvers. In this type of gun a base pin on which the cylinder rotates extends through the full length of the cylinder. In order to remove the cylinder from the revolver a spring-loaded button (Figure 10a) on the frame is pushed inward while the pin is withdrawn (Figure 10b). When the pin has been withdrawn, and while the loading gate is open, the cylinder may be removed from the frame (Figure 11). It is not necessary to remove the cylinder from this type of revolver in order to load or unload it. The loading gate, when swung to the right, with the hammer at the so-called "loading-notch" position (Figure 9b), permits the cylinder to be rotated by hand and as it is rotated each chamber can be seen. If cartridges are in the cylinder they are removed by pushing the extractor rod which is located on the left side of the gun (Figure 9c).

IGURES 4, 5. The revolvers shown in Figres 4 (Hi-Standard) and 5 (Harrington & ichardson) are also swing-out models but o not have a thumb latch to effect openg. Instead, with gun held as shown, the ght index finger presses gently against the r side of the cylinder while, at the same me, the rod at the forward end of the ector rod is pulled toward the muzzle of e gun, thus releasing the cylinder. Do not y to release the cylinder on such guns by ly pulling the rod out and toward the er since the rear of the cylinder tends to bind.

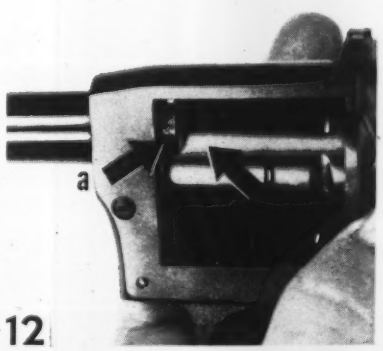

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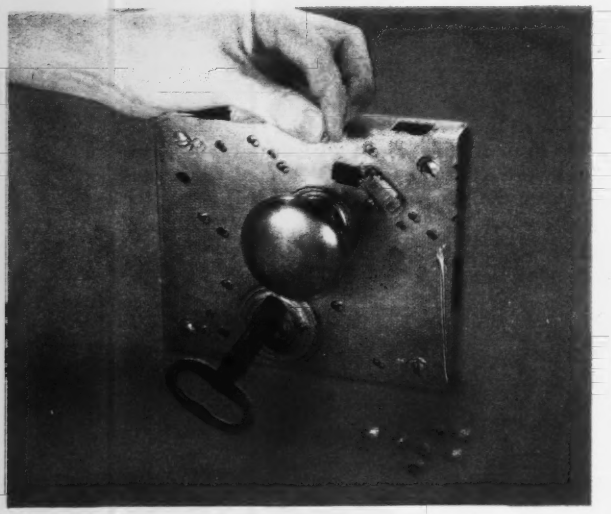
FIGURE 12. In Figure 12 is shown one of the latest model Iver Johnson revolvers with the cylinder (base) pin removed. However, before the cylinder can be taken from the frame it is necessary to align the rear extension of the barrel (Figure 12a) with a cut in the shield of the cylinder (Figure 12b). One doesn't encounter too many of these "trick" situations but they are always to be looked for when something doesn't work as it should.

This old pirate lock, from the famous Bailey collection, was found on a chest that may be hundreds of years old.



This early 19th-century lock featured a percussion rim that fired a blank charge and gave alarm if improper key was used. Some models fired slugs for killing.

painful-to-wear iron harness was supposed to keep intruders at bay while the master was away. God knows the contraption was enough to discourage even the most ardent lover, but some historians question whether the belt was ever actually employed, or whether it was some locksmith's idea of a practical joke.

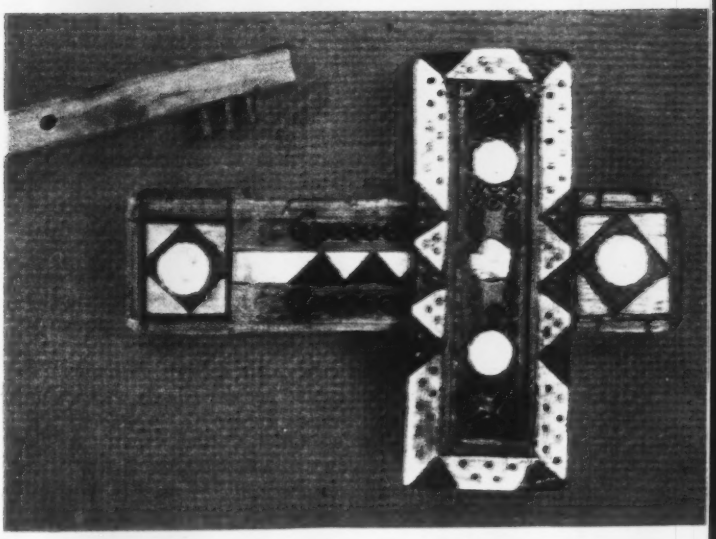
Other, and frequently deadly, mantraps were also used to snare the wrongdoer. Poisoned darts would spring out and inject a lethal fluid into anyone tampering with a strongbox. Another barrier was razor-edged blades set under a tray in the top of the chest. In operation, fingers had to be set into certain holes to work the combination. If the wrong holes were selected—suddenly, no more fingers.

With all this energy being expended in intricate mechanisms, no real progress was actually made in the improvement of the lock itself. Locks became bigger, but they didn't become better, and for many centuries the art of locksmithing was at a standstill. Then, in the 18th century, locks of basically sound construction were gradually developed. During the latter part of the century the British came up with some locks of truly revolutionary design.

The most famous of these British locks were the Bramah and the Chubb. The latter, invented by Jeremiah Chubb, a Portsmouth ironmonger, won Chubb a government prize of £100 as being unpickable.

A notorious lockpicker then serving time aboard a British prison

A 16th-century French locksmith wrought this lock and key from steel. A hidden button in the arch of the lock sprung open the front panel, exposing the keyhole.



This ancient Egyptian lock was owned by Darius III, is inlaid with mother of pearl. The Egyptians are credited with the development of the first lock-and-key combination.

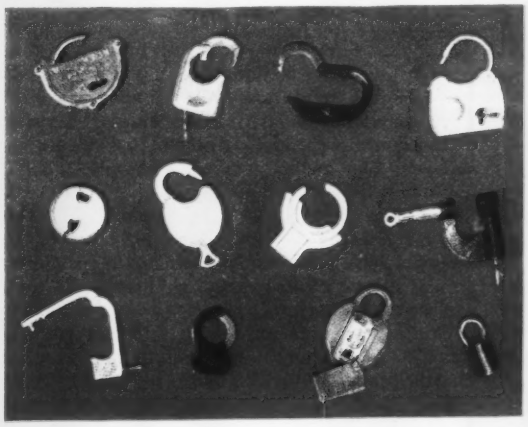
ship claimed he could pick the lock. Chubb offered him the £100 as a prize, and the Crown offered a pardon if he succeeded. Working for three months with a set of picking tools, key blanks and a watchful committee standing by, he struggled unsuccessfully, and in the end returned to his cell declaring the lock unpickable.

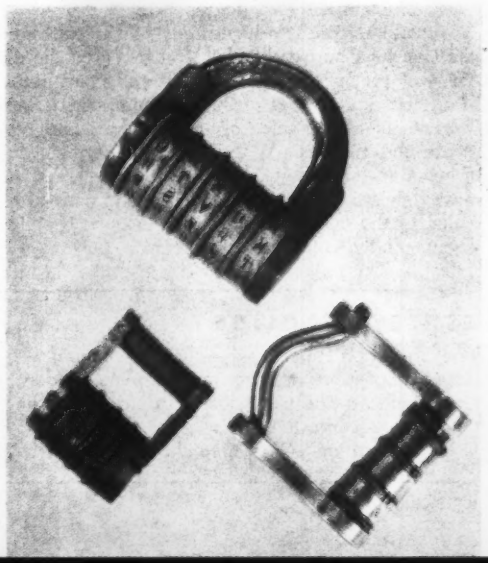
The Bramah lock, invented by Joseph Bramah, inventor of the hydraulic press, gained more renown than any of its predecessors.

Bramah's most intricate locks had the astronomical number of 6,277,202,800 possible changes of combination. Bramah locks remained unpicked for 60-odd years until A. C. Hobbs, an American locksmith, arrived on the scene of the great exhibition in London's Crystal Palace and brashly announced he could pick any British lock. A few days later Hobbs made good his boast, and opened a Chubb lock in view of a group of experts.

Hobbs went on to greater fame when he accepted the challenge of the Bramah firm to pick one of their locks. Bramah, for many years, had displayed a lock in their Piccadilly office window with an offer of 200 guineas to anyone who could design a picking tool that would open it. After a number of visits to examine the lock, Hobbs, working steadily for over 50 hours, managed to pick the "unpickable" and walk off with the prize.

Variations of old padlocks showing development across a span of about 100 years. Lock in upper right corner rang a bell whenever it was opened.





These early European and Oriental padlocks worked on the combination principle used today, except they used letters or symbols instead of numerals.

Hobbs' success as a lockpicker, due to his great skill and knowledge as a locksmith, gave the British lock industry a good case of jitters. When the initial shock wore off, the British hurriedly redesigned and improved existing models to regain the confidence of a badly shaken public.

This series of events, commonly referred to as "The Great Lock Controversy," did more than anything else to arouse interest in locks on both sides of the Atlantic. Lock-picking contests, as a pseudo-sporting event, became popular in America, and every inventor was challenged by a rival to submit his latest effort to a trial by experts.

Fortunately for progress, no lock remained unpickable very long. Linus Yale, Jr., a brilliant locksmith, managed to pick all of Hobbs' locks and then went on to design an unpickable lock of his own.

Contrary to general belief and the legends of Jimmy Valentine, "No lock with a keyhole has even been made which is unpickable." So stated the late Henry R. Towne, co-founder of the Yale & Towne Manufacturing Company. Yale demonstrated this fact by designing picking tools that would open the most involved bank locks in use at that time, and eventually picked his own "unpickable" lock.

Yale knew that as long as locks had keyholes, they could be picked, and the problem led him to the invention of a combination lock for bank protection. The combination lock became standard equipment in most of the world's banks, and for once the lockmakers were ahead in their race with the underworld.

Vaults were built into the bank structure and couldn't be carted off and opened at leisure, as they had in the past. And the combination lock presented a real stumbling block to the yeggs, since any one safe could have over 100 million possible combinations. This grand strategy worked, at least for a while. The criminals realized they couldn't break into the vault or open the door without the combination. How to get the combination? Simple, they reasoned. Kidnap the bank president or head cashier, and force him to reveal the combination.

This strategy worked so well before the turn of the century that locksmiths were forced to come up with a new improvement for the combination lock. By adding a clock that could be set to open the lock at a given time, the bank required a silent watchdog that thwarted the cracksman for good. In fact, one attempt was even made on a time lock when an electronically minded burglar devised a method of speeding up the clock motor with batteries and powerful magnets. The gadget worked, but only enough to gain a few minutes in every hour.

With the exception of the time lock, most other locks can still be picked. Lock experts state, however, that a well-designed lock is so time-consuming to pick, even for those armed with expert knowledge, skill and tools, that it is secure against most attack.

One of the more interesting safecrackers in recent years was a New York tool designer and locksmith named William C. MacLaren. Very clever with his hands, MacLaren could have made a very comfortable living at his honest craft, but the thrill of operating a sideline business outside the law tempted him greatly and he turned his talents to opening safes—other people's safes, and without their permission.

For months he raided safes all over New York City, and he was so successful in covering his tracks that an employee of the robbed company would stand accused of the jobs MacLaren committed. Using his skill as a toolmaker, MacLare fashioned a complete set of drilling tools small enough to be palmed in his hand. MacLaren worked to close tolerances of .0001 of an inch in drilling tiny holes in the safe dial, after which he would carefully align the tumblers and swing open the door.

The Safe and Loft Squad finally caught up with the master safecracker after a lengthy stakeout, and MacLaren confessed everything in his brief but successful career as a criminal.

Safe locks, like other locks, are seldom understood by their users, in spite of the tremendous educational work done by the lock companies. Even with the common pin-tumbler lock, few people realize the key is made first, then the lock assembled to fit the key.

Another fallacy is that no two locks have the same key. Obviously, the number of key changes, or combinations, possible is limited by the physical condition of the lock and key.

Each new pin added to the tumbler multiplies by ten the additional combinations that can be made. A five-tumbler lock has 100,000 changes, and a seven-tumbler lock 10 million.

When you get into the higher brackets, however, the lockmakers begin to split hairs over the minute changes possible, and for practical purposes they use only 27,000 different combinations in a five-tumbler lock, tossing out the remaining numbers. When these 27,000 combinations are used up they start all over again.

Master-keying is another bit of lock wizardry that tends to confuse the layman. Locks are master-keyed by having two cylinders that operate independently of each other. Yet each, with the proper key, will operate the lock. Hotels are good examples of master-keying.

The guest's key is on the bottom rung of the ladder. In lock jargon, it's called a single change key, and will open only one door.

The maid's key, unlocking all the doors in her block, is a sub-master key. Next is the floor clerk's key, or master key, which will open all the doors on that floor. The manager's key is the grand-master key and will open all the doors. Above that is the great-grand-master key. Used in emergencies, it will open every door, including those locked from the inside with the key still in the lock.

The intricate job of master-keying isn't the only difficult task facing the locksmith. A good locksmith must also be a diplomat, particularly when family squabbles arise and the husband, then the wife, constantly change locks to keep each other out. The thousands of intrigues connected with locks and security keep the nation's locksmiths busy with continual emergencies of assorted degree.

Possibly the most adventurous of his colleagues was the late Charles Courtney. In his lengthy career he did confidential work for our own government and many foreign powers. Many times, wearing deep-sea-diving rig, Courtney went down to open the safes of sunken ships and recover documents and treasure. With all this excitement in a lifetime of work with locks, Courtney was once asked to relate his most delicate assignment. He replied, with a grin, "Being called in the middle of the night to open the zipper lock of a young lady's nightgown. ★★★

IN FORTHCOMING ISSUES OF POLICE

Juvenile Traffic Problems and Preventive Measures—*Captain Lou Spitz*
Acute Heart Emergencies—*Carl B. Young, Jr.*
The Nalline Test as a Means of Controlling Narcotics Traffic—*Chief Wyman W. Vernon*
The "Finest on Horseback"—*Phillip Benjamin*
Social Innovations in Prisons—*Walter A. Lunden*
Open House—The Gateway to Improved Public Relations—*Captain George F. Morris*
Crime Prevention—*Chief Daniel S. C. Liu*

The Role of Religion in the Prevention of Crime and Delinquency

By Father William E. Hogan

EDITOR'S NOTE: *Religion may perhaps lay claim to the distinction of being among the greatest social forces that ever struck humanity. Churches, of whatever denomination, are recognized as major social institutions in all communities and cities across the land, symbolizing a faith in values calculated to foster a well ordered behavior. It is a matter of considerable significance that some of our best police training schools are devoting attention in their training programs to the role of religion in the prevention of crime and delinquency and it is therefore, altogether appropriate that the pages of a professional police Journal should give this phase of the problem recognition.*

Father Hogan is an Associate Professor of Sociology at Bellarmine College, Louisville, Kentucky. He has taught at Loyola University, Chicago. He was Chairman of the Department of Sociology at the Catholic University of Peking, China, until the Communists closed that institution. Father Hogan received his Ph.D. in sociology at the Catholic University of America in 1946.

THE National Conference on Juvenile Delinquency met in Washington, D. C. June 28-30, 1954. It was probably one of the most ambitious attempts ever made to discover why we are losing the fight against juvenile delinquency. Some 475 representatives from forty-three States and the American Territories accepted the invitation of the Secretary of Health, Education and Welfare to discuss specific needs of our youth and how they could be met. I have read the report twice in an effort to discover whether there is a spiritual approach to the problem of delinquency. All I find is a polite reference to the fact that the conference was in agreement that the guidance and protection of children is rooted in Judaic-Christian concepts and the values inherent in religious, spiritual and ethical beliefs. No resolution was framed which would act upon such knowledge. The conference recorded its awareness that our schools are in the best position to make inroads into the delinquency of America but the best recommendations the conference could formulate were: a teacher-pupil ratio of one to twenty-five, an increase in the traditional team of attendance workers, social workers psychologists, psychiatrists and of course an increase in appropriations for more research on problem children.

The ominous absence of a religious approach to delinquency at this learned gathering ties in with what amounts almost to a conspiracy among our so-called experts on delinquency to disregard the *Ten Commandments* when proposing effective means of facing up to the scourge of present day delinquency. Our literature on delinquency is over-weighted with panaceas calculated to check the specter which is haunting the United States. All of these patent cures are an "eleventh commandment" which has never heard of or presupposes the *Ten Commandments* are outmoded. All of these proposed cures have been tried before and have not been effective. More than half of todays criminals were delinquents who have passed through the course represented by current therapy. At the risk of being labelled part of a special interest group with some ulterior motive, I am about to suggest that we are nearly over our heads in delinquency because we lack the courage to apply the *Ten Commandments* to the problem at hand. We are close to a desperation level. Some of our dilettant criminologists are currently proposing a universal psychiatric examination for each of our nation's school children. We have even been told we should broaden our public school curriculum to include an elementary knowledge of organic cellular dynamics.

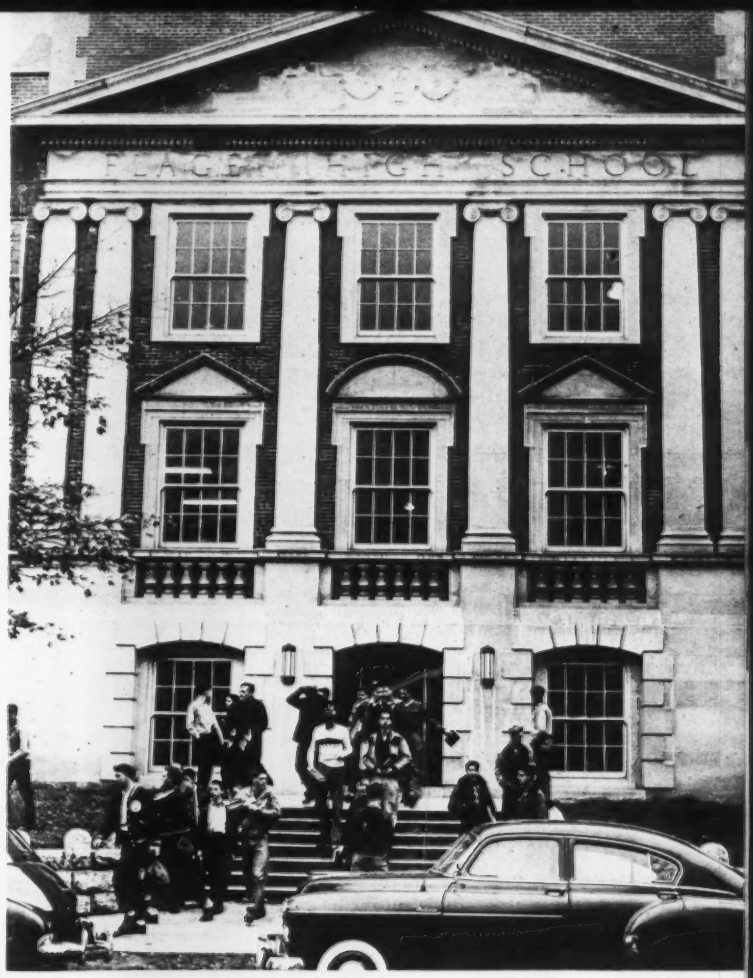
This might be the proper place to reply to the objection that religion has been tried and found wanting. To clarify the issue we might inject that sporadic Sunday School classes have been tried and found inadequate but their failure to keep youngsters out of juvenile courts is hardly the failure of religion. William Kvaraceus in an article for *Sociology and Social Research*, March, 1944, set the stage for a dozen authors who have confused Sunday School and religion and see in neither any therapeutic value for decreasing delinquency rates. Kvaraceus studied histories of 761 delinquents referred to the Passaic, New Jersey Children's Bureau. He tells us two-thirds of these children were members of the Roman Catholic Church or Eastern Orthodox churches. He fails to tell us how many of the Catholic children attended parochial school. Kvaraceus and the dozen authors who have made similar studies of church-going delinquents define the practice of religion as attendance at church weekly. It seems unrealistic to write off religion because irregular attendance at Sunday School has not influ-

Address: Father William E. Hogan, 2121 Lancashire, Louisville, 5, Kentucky.

enced children to stay away from antisocial behavior. We might as well try to lead the world in engineering while our schools offer mathematic courses only Friday mornings from eight to nine. Mr. Kvaraceus concludes his study with the empty (conclusion) words, " . . . we can say quite definitely that church attendance does not prevent the delinquent from evidencing aggressive delinquent behavior." Mr. Kvaraceus' study merely brings into relief the conviction of H. C. Dickerson that "the average eighteen year old reformatory inmate is a nominal member of a church that he never attends." If Mr. Kvaraceus had visited the Clinton State Prison the year he made his study he would have found that out of 1160 so-called Catholic inmates of that institution only fifty-nine ever attended a parochial school. If we are to dispassionately discount the role of religion in the fight against delinquency we ought to take the trouble to check whether we are dealing with religion or a facsimile thereof.

A great deal of caution must be used in belittling the role of religion in this country which is burdened with the highest delinquency rates in the world. One must first be aware of the fact that only thirty out of every one hundred Americans (children included) go to church on Sunday. The church reaches only one-third of the nation's children and that is an optimistic calculation. The one-third which does attend church is exposed to its teaching for an hour a week. We have the bad habit of turning to the church to reform children after they have come into our correctional institutions. The more impressionable years of these youngsters have been passed without contact with religion and the ideals it can inculcate. The chaplains in our 230 Training Schools throughout the United States will tell you that 90% of Catholic youths in these schools of failure had no parochial school training. These are the Catholic children denied a daily lesson in religion for eight years of grammar school. Michael Sebold, a child welfare worker and juvenile probation officer from Fairmont, West Virginia, addressed the Eighth Annual Conference of the National Association of Training School Chaplains and made the bitter complaint that the general population of our expensive reform school system is almost beyond the reach of the chaplain's message. His words are worth repeating. "But when the child reaches the institution we must meet him where he is, which too often means that to him God holds about the same position as Santa Claus—neither having been a very enriching experience. The clergyman is a foreign element and the *Ten Commandments* beyond his knowledge. . . . If our effort is to be successful, the child must have as a basic tenet for his guide in life that 'God made me to know Him, to love Him and to serve Him in this world and to be happy with Him forever in the next.'" Mr. Sebold has met youngsters who have never been told that God is interested in them and they do not care about the interest of the police.

Unofficially at least, delinquency officers are willing to admit that they have far less trouble with youngsters attending parochial schools than they do with children in public schools where no attempt is made to offer a course in religious values. There is little record of such testimony because most juvenile courts do not even register school affiliation of youngsters committed. Perhaps the unbiased findings of IBM reports from our juvenile courts could convince some skeptics that parochial schools are saving the community considerable tax amounts by sending fewer inmates into our rehabilitation centers. This author intends to describe such statistics as soon as the local juvenile court makes the first issue of such figures available. Cold



The leaders of tomorrow can be no better than the schoolboys of today.

Courtesy, Pix, Inc.

Excitement that is charged to the taxpayer.

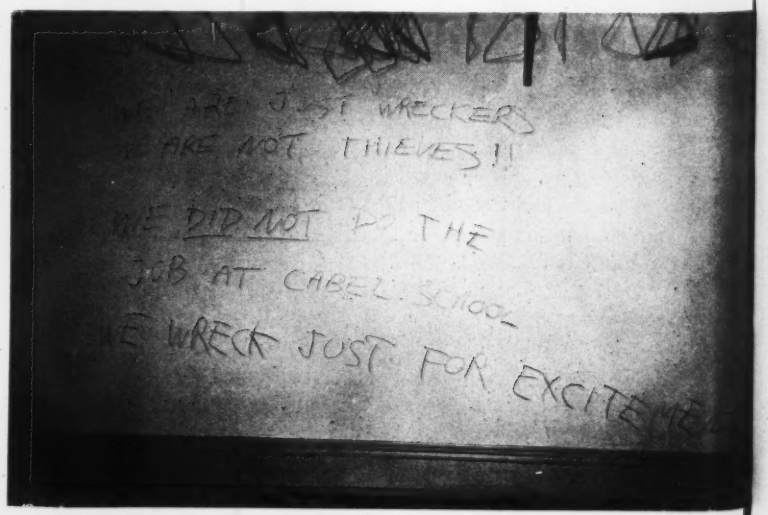
statistics will show that John Deweyism, the cramming of secular knowledge down the throats of children, has not attained the millenium its author forecast. All is not well with our public system of education because there is no mention of the training of the will. It might be more accurate to say there is no mention of the will. John Dewey disliked the idea of teaching self-control. Millions of our children are exposed to a system in which they are taught to resent any interference with their liberty. They can hardly wait to exert on the police the same abandon they were permitted to exercise in school. Fortunately our police are not graduates of the progressive education system and they are unwilling to permit the same freedom from inhibition that many school teachers condoned. Therefore our juvenile courts are crowded.

J. Edgar Hoover has time and again disagreed with the Kvaraceus school of thought. In the January, 1955, *American Magazine* the gentleman who is in the best position to evaluate the extent of our national delinquency offers a formula he feels might curtail juvenile delinquency. "The easiest way to bring this about, in my judgment, is through a return to religion. For several decades the general trend has been away from the age-old belief that man is God-centered and responsible for his thoughts and behavior to a Higher Power as well as to his fellow man. The resultant materialism has emphasized the values of expediency, shirking responsibility and selfishness. . . . If all Americans would join this back-to-God movement and train their children to respect the *Ten Commandments* and other moral laws laid down by all the great religions, we would soon bring delinquency under control." Mr. Hoover leaves his program in the hands of parents who have the first responsibility for their children. But he knows better than we do that a large percentage of delinquency stems from disorganized families in which the practice of religion is next to being non-existent. Certainly he would favor the school supplementing the family in bringing respect for the *Ten Commandments* into the lives of our future citizens.

Frederic M. Thrasher long ago told us he had discovered a failure of present day religion to penetrate in any real way the experience of the gang boy. Precisely because religion was just an occasional Sunday morning experience for the majority of the members of 1300 gangs known to him, Thrasher recommended that more religious instruction be made available to our youth. One need not be as well versed in the problem of delinquency as is Thrasher to recognize that our youth of the gang age are exposed seven days a week to influences which stimulate passion without offering any hint that passions, if they are to contribute to personal happiness, must be controlled. The fallacy that *Bible* reading on Sunday morning can effectively stave off the quantum of rebellion built up in the minds of youth all week is graphically demonstrated by police records. The *Bible* was not written as a Sunday morning lesson. It is a way of life that was meant to apply all week. It cannot be learned if it is taught one day a week.

Ben Solomon, who has been study-

Letter to a psychiatrist—vandals who would not admit they were thieves.

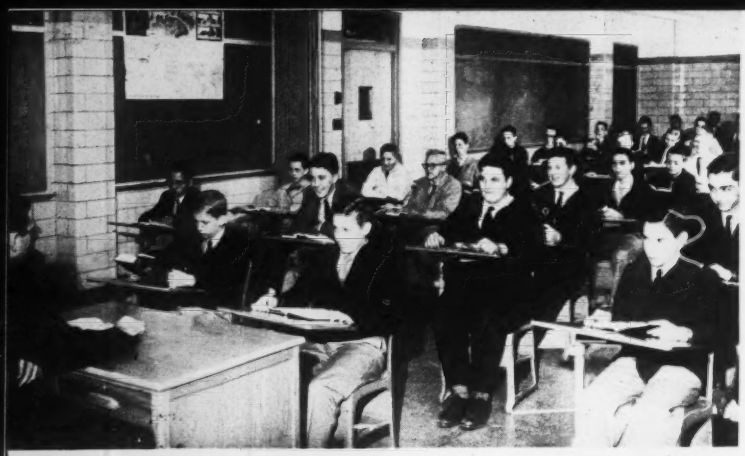


Motivation—an essential ingredient of education.

ing juvenile delinquency for more than a quarter of a century, has an explanation for our failure to solve the delinquency problem. In the December, 1953 issue of *Federal Probation* he lists a dozen methods that have been tried to keep young folk out of the toils of the law. He eliminates one method after the other as the answer we seek. Sports programs, nine o'clock curfews and all the well known failures he has observed must give way to our schools. "This, then, is my message: We must work on children before they become delinquent, in the grade school where our influence and results will be greatest." We have discovered that the easiest way to develop big league ball players is to start training little leaguers. A moral behavior course (a euphemism for those who dislike commandments) must begin early if it is to be effective. We do not wait until the late teens to teach table manners. Solomon meant his article as a kind of farewell address on the subject of juvenile delinquency. It brings to mind another *Farewell Address* in which a thoughtful American warned that reason and experience both forbid us to expect that national morality can prevail in exclusion of religious principles. In our present system of barring the teaching of religious principles in our public schools we are accomplishing the cherished goal of Lenin who repudiated ethics and morality within his Young Communist League. Instead of the morality of the class struggle we are getting more vandalism and auto theft and rape—the American version of class struggle. There is an imposing list of judges at work in our juvenile courts who have given abundant testimony that irreligion has obviously become the major contributing factor in our national delinquency crisis. These judges are not mystics in an ivory tower. They have seen clinical treatment fail to salvage lives threatened with complete failure. While the costs of psychotherapy continue to mount these judges have seen recidivism continue to increase. These same judges know that many of those they are called upon to help are almost completely without moral standards to which they can anchor a lesson in decent living. Our already overburdened probation officers are too busy to supply the lessons in behavior which should have been learned in grammar school. Too many of our youngsters are indicting our school system along with their parents when they are hauled off to a reform school with the complaint, "Why didn't somebody tell me I was wrong?"

The Evanston decision of the Supreme Court has made our public school system atheistic. Apparently the McCollum case decision does not affect our reform schools because there is a widespread effort being made to introduce religion classes on state property for delinquent children. It would seem our secularized society has no objection if religion is offered as a consolation for those in trouble. There is a sad contradiction in our current procedure of indoctrinating school children with the idea that God is dead and therefore there is no sin only to tell them when they take us at our word that they will need God's help if they are to prepare themselves to return to decent society. Possibly I have created the impression that there is much enthusiasm for religious training in our reform schools. That is not even the case there. Not one of the rehabilitation centers in the State of Kentucky from which this author writes has a chapel on its premises. Ormsby Village which is often written up in textbooks on delinquency as a model school has only a poorly ventilated and poorly lighted basement room that the administration did not need for any other purpose which is used as a chapel by the Catholic inmates. What is true of most of our penitentiaries applies at our reform schools throughout the country—religious services are held in a mess hall or an auditorium.

A serious obstacle to the introduc-



Complete education includes religious instruction.

tion of religious instruction as a means of reducing delinquency in this country might well be the attitude of some of our better known authors of textbooks on crime and delinquency. In spite of the dearth of empirical information on the influence of religion as a force capable of shaping character, some of the most widely read texts on delinquency have insisted that the Judaic-Christian tradition has outlived its usefulness as a weapon against anti-social behavior. Unfortunately, these authors have all but established a monopoly over the market in college sociology courses. Father Coogan found himself almost alone when he called some of these authors to task for the contempt they showed toward religion. Father Coogan found less than ten pages reserved for the subject of religion in Donald Taft's text of 755 pages. In the Sutherland text on crime there were only two pages out of 626 turned over to a consideration of the role of religion in the field of crime. Ruth Cavan devoted two pages to religion in her text of 678 pages. Walter Reckless thought the subject of religion so irrelevant that his text does not even introduce the concept. Harry Elmer Barnes seems to enjoy dragging in religion only to attack its usefulness in his numerous publications on crime. Father Coogan's article in *Federal Probation* was answered by some of the authors. Each of the writers made it abundantly evident that they had not acted without consideration. They were all convinced that religion had little to offer toward the reduction of crime in our society. These authors are certainly entitled to their convictions but they appear to be leagues ahead of the evidence even now available. In all probability the evidence will meet with certain blind spots in the philosophy of some of these esteemed writers. It is difficult to understand how H. E. Barnes can keep an open mind on the influence religion might exert in favor of lessening delinquency. Since 1926 at least Barnes has been dedicated to his proposition that, "There is not the slightest iota of choice allowed to any individual from birth to the grave." There could hardly be a better slogan to promote delinquency than the one Barnes has created. One wonders what possible solution for delinquency a person convinced as Barnes is might suggest. It is of passing interest to note that since Barnes first made that statement in *Current History Magazine* the populations of our state and federal penitentiaries have increased four times faster than our national population. Dr. Barnes seems to believe that the majority of our criminals are born and are reared in orthodox religious circles. He must have had his tongue in his cheek when he wrote, "If orthodox Christianity is any real check on crime, then this strong religious experience in childhood should take and should hang over as a decisive influence in adult life. It should be particularly powerful in restraining juvenile criminality. But the increase of the latter would seem to deny any such decisive influence." Mr. Barnes is right in as far as he allows a strong religious experience might be a decisive influence against criminality. He knows from all the available court evidence that our youngsters are not being exposed to such decisive influences. But Mr. Barnes cannot help writing as he does. Back in 1929 he wrote the *Twilight of Christianity* in which he blamed orthodox Christianity for most of our social evils. J. Edgar Hoover feels there is a possibility of changing things for he was quoted by the *Brooklyn Tablet* of May 15, 1954 as saying, "The secular way of thinking must give way to the spiritual if our nation is to stand." Mr. Donald Taft proves himself a faithful follower of Barnes when he defends his determinism against the charges of Father Coogan. Taft believes, "The doctrine of free will and supernaturalism hinder longtime programs to prevent crime, even though

We have wills to discipline as well as intellects.

they have to be sympathetically recognized in dealing with those to whom they are still sacred." We can hope and pray that these learned sirs have not taken to driving a car for they cannot be sure they will stay on the right side of the road. Ruth Cavan sees little hope of religion ever decreasing the crime rate because she feels religion is very individual centered. In the mind of Ruth Cavan there is a colossal ignorance of the real meaning of Christian living. John Reineman and N. K. Teeters, co-authors of *The Challenge of Delinquency,* hold that "religion as we know it" is of little value in

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turning people from delinquent behavior. Possibly they are suggesting that our Sunday school version of religion is inadequate. If they have any sympathy for the effectiveness of religion they have not yet published their sentiment.

All of which leaves us with the consolation that there are still some thoughtful men who feel we have not reached the end of the road in seeking a solution to delinquency.

In spite of the devastating influence of our academic rajahs we must find a way to convince the taxpayers that 200,000 of our school children are being committed to our juvenile institutions annually with several thousand more placed on probation to their parents because we have not proposed a set of moral values to these youngsters to help them make law abiding decisions. There must be enough intelligence left among our citizenship to implement at least a released time program in which the fundamental religious notions contained in the *Ten Commandments* can be embodied in a school course. Whatever our religious affiliation we cannot afford to admit that there is no road to the prevention of more and more delinquent careers. We have tried every approach but the application of the *Ten Commandments*. We ought not rule out this possibility without a fair trial. ★★★

Disregard for the rights of others can blow up in your own face. Death rides with selfishness.

The Michigan Police Personnel Management Survey

By A. C. Germann

EDITOR'S NOTE: *Dr. Germann received the Bachelor's degree in Philosophy at Loyola University, Master's in Public Administration (Thesis: The Executive Development of Police Administrators by Agency and College), and the Doctorate in Public Administration (Dissertation: Police Personnel Management) at the University of Southern California.*

He was a sworn officer of the Los Angeles Police Department from 1949 to 1955, serving in traffic, jail, juvenile, patrol, vice, and administrative assignments. He was appointed to the Faculty of the School of Police Administration and Public Safety, Michigan State University in February, 1955.

Dr. Germann served with the U. S. Air Force in World War II, and during the Korean engagement. He is a Central Vice President of the SOCIETY FOR THE ADVANCEMENT OF CRIMINOLOGY, *and an associate member of the* MICHIGAN ASSOCIATION OF CHIEFS OF POLICE.

AS a part of a study of police personnel management, field research was conducted in the state of Michigan, with research emphasis on organization behavior.

Rather than attempting a nation-wide survey, at all levels of government, it was decided to conduct a survey of one state, at one level of government. This decision was based on two factors: first, that studies which are too broad frequently result in but superficial examination of multifold data, and second, that the writer was residing in Michigan, and able to utilize the resources of the Michigan Association of Chiefs of Police, the Michigan Municipal League, and the School of Police Administration and Public Safety at Michigan State University.

METHODOLOGY

The survey was extensive, covering all Michigan municipalities with a population in excess of 2,500. Thus, all police agencies with a manpower in excess of two men were examined, a total of 137 municipalities.

Cities, for the purposes of tabulation, were grouped into six classes:

Group I: Cities with a population in excess of 250,000 (1 city)
Group II: Cities with a population from 100,000 to 250,000 (4 cities)
Group III: Cities with a population from 50,000 to 100,000 (6 cities)
Group IV: Cities with a population from 25,000 to 50,000 (17 cities)
Group V: Cities with a population from 10,000 to 25,000 (35 cities)
Group VI: Cities with a population from 2,500 to 10,000 (74 cities)

A questionnaire was formulated, samples tested, and final draft completed November, 1955. Cities were queried on December 1, 1955, and on December 15, 1955. Returns were received from 110 of the 137 cities surveyed, 96 forms signed by the Chief of Police. The survey response of 80% was indicative of the excellent cooperation received.

SURVEY FINDINGS

Two hypotheses were suggested:

Hypothesis I: It would seem that there exists a wide gap between the expressed *attitudes* of police practitioners, and the *practices* currently employed in the management of police personnel.

Answers to open-end questions reflected, quite clearly, progressive attitudes relative to personnel management, but survey results indicated serious deficiencies in the management of police personnel, thus tending to substantiate Hypothesis I.

Hypothesis II: It would seem that effective or ineffective police personnel management is *not* a correlative factor with city size, agency size, budgetary allotment, crime rate patterns, or legal structure.

All attempts made to correlate survey results with crime patterns, city size, budgetary allotments, available manpower, pay scales, and legal structure were abortive, thus tending to substantiate Hypothesis II.

It was felt that some evaluation of personnel management could be made by constructing arbitrary criteria based on accepted personnel practice. Only *51* of the 110 cities responding could meet the following eight point program:

1. A 35 year maximum entrance age.
2. Minimum educational level of high school or equivalent.
3. Application form required of each candidate.
4. Fingerprint check made of each applicant.
5. Probationary period of at least six months.
6. Entrance pay of at least $250 per month.
7. A work week of less than 49 hours.
8. Some form of recruit training.

Only *six* of the 110 cities responding could meet the following sixteen point program:

1. A 35 year maximum entrance age.
2. No residence requirement in effect.

Address: Dr. A. C. Germann, School of Police Administration, Michigan State University, East Lansing, Michigan.

3. Minimum educational level of high school or equivalent.
4. Application form required of each candidate.
5. Written examination given each applicant.
6. Fingerprint check made of each applicant.
7. Probationary period of at least six months.
8. Competitive promotional examination.
9. Entrance pay of at least $250 per month.
10. A work week of less than 49 hours.
11. Some type of compensation for overtime work.
12. Some form of recruit training.
13. Some training beyond that of recruit.
14. Use of the written reprimand as a disciplinary device.
15. Some type of performance rating system.
16. A personnel folder or jacket for each employee.

Utilizing these relatively conservative criteria, the writer "graded" the responding cities, arbitrarily granting an "A" to the six cities which met the 16 point program, a "B" to 43 cities which met 13 of the 16 points, a "C" to 36 cities which met 11 or 12 points, a "D" to 24 cities which met 4 to 10 points, and an "F" to the one city which could meet but 2 points.

The grades were scattered, as follows:

Population Groups	*Number of Replies*	*A*	*B*	*C*	*D*	*F*
Group I (1 city)	1		1			
Group II (4 cities)	4	1	2	1		
Group III (6 cities)	5	2	3			
Group IV (17 cities)	16	2	10	4		
Group V (35 cities)	31	1	19	10	1	
Group VI (74 cities)	53		8	21	23	1

Although the breakdown of major findings is too voluminous for presentation here, a listing of a few of the major negative and positive findings should be of interest:

Major Negative Findings

Forty municipalities allow entrance to persons above age 35.
Forty-two agencies maintain a residence requirement.
Fourteen cities maintain educational requirements less than high school.
Ninety-two agencies report local residents as the primary source of personnel.
Nine cities do not utilize any form of application.
Forty-one cities do not administer any form of written examination.
Twenty-five cities do not conduct any form of fingerprint clearance.
Nineteen cities allow appointing officer to choose any name from eligibility list.
Seven cities do not require a probationary period.
Thirteen cities require less than six-months probation.
Fifty-six cities do not have competitive promotional processes.
Forty-five cities report no use of position classification.
Fifteen cities utilize a flat pay rate for police personnel.
Eight agencies operate with a work week in excess of 50 hours.
Seventeen cities provide no form of compensation for extra duty.
Sixty-seven cities provide no form of compensation for required court appearances during off-duty hours.
Thirty-five cities have no form of retirement program.
Fourteen cities have no form of recruit training.
Thirty-one cities offer no training beyond that of recruit.

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Seventy agencies do not place responsibility for training.
Forty-two agencies do not maintain a library for personnel.
State-wide average turnover rate for civilian personnel is 24.7.
Seventy agencies do not utilize the written reprimand for discipline.
Sixty-eight cities do not utilize any type of performance rating.
Twenty-six agencies do not maintain a personnel folder or jacket for each employee.
Sixty-six cities report that supervisors are not trained in human relations.
Ninety-eight cities have no form of incentive pay program.
Seventy-eight cities have no credit union facilities available.
Seventy-four agencies do not have any type of counseling services.
Sixty-three agencies have no form of suggestion system.
Forty-six agencies have no form of grievance system.
Twenty-two agencies report that no formal means of communicating major policy is available.
Seventy-five cities indicate that no periodic assessment is made of personnel management.
Fifty agencies indicate that no research of any type is conducted.

Major Positive Findings

Eighty-three cities require educational minimum of high school or equivalent.
Three agencies utilize a psychiatric examination as part of screening.
Twenty-three agencies require a one-year probationary period.
Twenty-one cities drop probationers from payroll if not formally requested by appointing officer.

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Many Chiefs and their wives made plans for a shorter vacation in 1956 to offset a longer vacation in 1957. A short visit to Hawaii is very worthwhile, but a few extra days would add much enjoyment to your trip.

A wonderful Convention program is being planned, which everyone will find very beneficial as well as enjoyable and different. Side trips from Honolulu to the Outer Islands in the Hawaii chain will be among the highlights.

WISCONSIN STATE PATROL ADOPTS BREATH TESTING DEVICE

Lawrence E. Beier, director of the Wisconsin Motor Vehicle Department's Enforcement Division, announced the Patrol's adoption of the Breathalyzer, a chemical test device, after successful completion of a series of tests to determine its accuracy. Director Beier feels it will be relatively easy to teach patrol officers how to use the Breathalyzer.

The Patrol is now using this testing device in Dane and Walworth counties and plans to provide one at each patrol district headquarters. They will also be made available to local and county enforcement officers in Wisconsin.

For Group I to Group V cities, both entrance and maximum pay averages exceed national averages.

One-hundred and three cities provide group insurance plans.

One city reports a cadet program.

Thirty-three cities report planned job-rotation for training.

Sixty-four cities report that a personnel procedure manual is available.

Seventy-four cities report a set of rules and regulations for police personnel.

Annual turnover rate for police personnel, state-wide average, is 7.9.

Ratio of civilian employees to police employees is 11.5 on a state-wide basis, higher than the national average.

Sixty-four cities utilize crossing guards.

The ratio, state-wide average, of police employees per 1,000 population is 1.60, less than regional and national averages.

Performance ratings are reviewed with rated personnel in 17 of the 20 agencies reporting a rating process.

Eighty-two cities report the use of the supervisory conference.

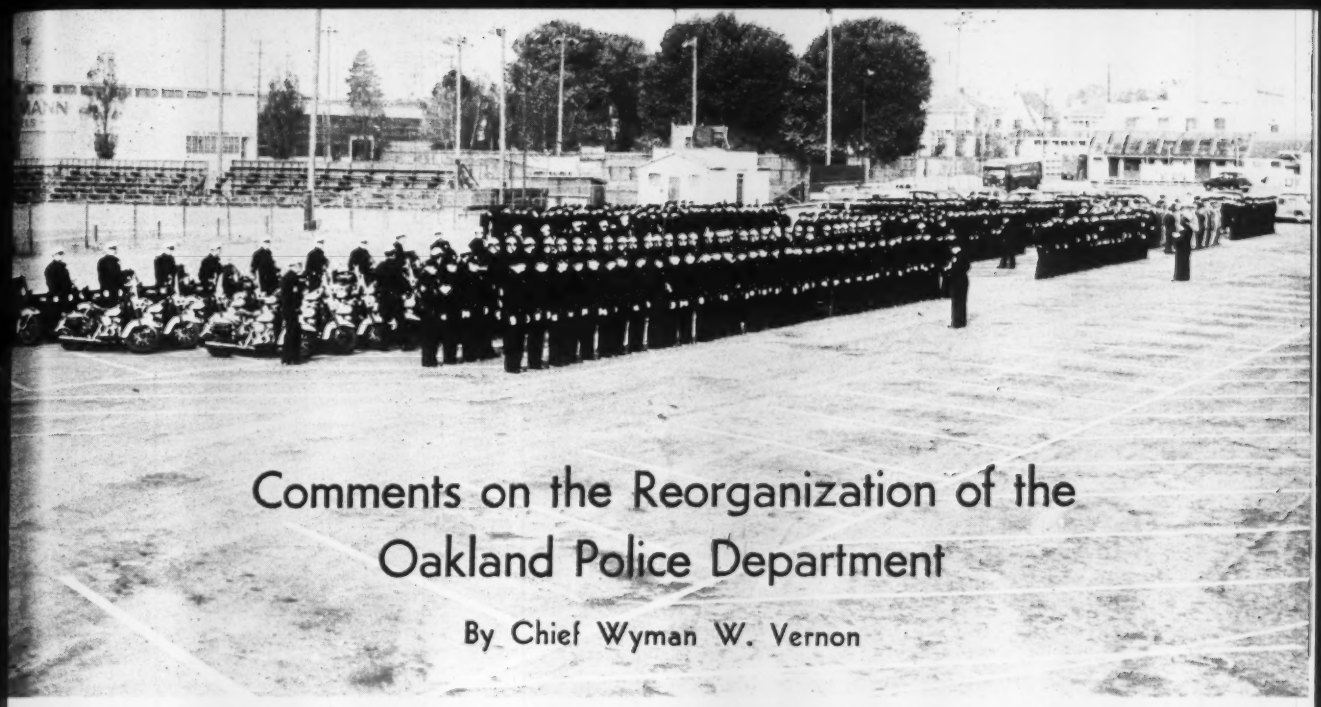
CONCLUSIONS

Free answer questions elicited healthy responses. Sound supervision, improved motivation, careful selection, adequate remuneration, effective control, and good public relations were voiced, quite emphatically, by the majority of respondents. Stress on training—or "training, training, and more training at all levels," as one return stated—would seem to indicate that the leadership of Michigan municipal police seriously recognize the need for well informed and competent personnel.

Nonetheless, the Michigan Survey strikingly revealed weaknesses of current police personnel management. It is suggested that any like survey conducted on a national level would produce even worse findings, for the police service in Michigan is that of a highly organized, highly industrialized, and management-conscious state, and the police leadership in Michigan is that of seriously dedicated men.

The complete study of police personnel management resulted in four major conclusions: *First*, that defects in current police personnel management tend to indicate poor civil service law and process, or tend to impute a deficiency of management talent to the police executive. *Second*, that there is a reluctance among policemen and police organizations to face up to the fact that modern police tasks demand professional capacity, education, motivation, and conduct. *Third*, that the expeditious development of police personnel management is hampered, to great degree, by the paucity of fundamental research. *Fourth*, that the future of police personnel management is of critical importance to the police service, and to any improvement of the administration of criminal justice.

It would seem that in order to make our law enforcement agencies ever more competent instruments of government, and ever more edifying safeguardians of the Common Good, personnel management forms the area wherein practitioner, academician, public administrator, student and citizen together can mold a truly professional police service. ★★★



Comments on the Reorganization of the Oakland Police Department

By Chief Wyman W. Vernon

DISCIPLINE & FULL DRESS INSPECTIONS—A police department is necessarily a semi-military organization and just as in the Army, Navy, or Marines, "Discipline" is a basic requirement of the service. In emergency situations officers must be expected to react immediately and without question to the orders of their Supervisors and Commanders. As an aid to the development of an acceptable level of discipline, and also to insure that officers take proper care of themselves and their equipment, a policy of semi-annual "Full-Dress Inspections" was instituted during 1955. These inspections had considerable effect in improving the appearance of the members of the department.

EDITOR'S NOTE: *After graduation from the University of California (College of Commerce), Chief Vernon became associated with the American Trust Company in San Francisco. Subsequently, in 1932, he entered the Police Department of Oakland, California. He was promoted successively through the ranks of Sergeant, Inspector, Lieutenant, Captain and finally became Chief of Police on February 15, 1955. Chief Vernon attended the Northwestern University Police Administration course in 1947. Taking time out temporarily, he served as Chief of Police of Richmond, California in 1948-49, to conduct a reorganizaztion of the department. Richmond had grown from a city of 22,000 to over 100,000 during World War II. In the following article, Chief Vernon outlines the steps that have been taken during his administration in the reorganization of the Oakland Police Department.*

I am delighted to answer the Editor's request for a brief paper on the recent changes and developments in the Oakland Police Department; however, these comments can hardly amount to more than a simple description of the manner in which certain problems have been met in our city and a review of the reasoning which has been the basis for our several decisions. It is certainly true that our solutions would not be adequate to meet similar problems in all cities. Differences in personnel, local government policy and basic operational procedure must weigh heavily in the decision making function of the police chief; however, our experience may be of value to other departments in developing their own answers to current administrative questions, and it is for this reason that the following notes are set forth.

It is important to note before entering into a discussion of the actual changes made that two conditions existed in Oakland in 1955 that were basic to our reorganization and so vitally important that the absence of either would have rendered our efforts largely ineffectual. First, the great bulk of the members of the Oakland Police Department really wanted to be a part of an outstanding police organization. They were, almost to a man, willing to give the extra effort and cooperation without which progress would have been slow and painful indeed. Secondly, the governing officials of the City of Oakland expressed the desire that this department develop the highest possible level of police service and the Mayor, the City Manager and the individual Councilmen have proved time and again that they meant it without reservation. Some of the steps taken by this department toward a better police service have been, at least temporarily, politically unpopular but the members of the City Government have not faltered in our support. The atmosphere created by these two conditions has been very nearly ideal for the growth and development of a progressive and dynamic police operation.

The major steps taken here to develop that highest level of police service toward which we all strive seem to fall naturally into five major categories: (1) An absolute "closed town" policy toward all vice activity; (2) tightened discipline; (3) improved and continuing train-

Address: Chief Wyman W. Vernon, Police Department, Oakland, California.

PERSONNEL DIVISION—Is charged with responsibility for processing all matters relating to the employment, assignment, sickness, injury, transfer, promotion, resignation, discharge or retirement of members and employees of the department. In an organization with more than 700 persons employed, these functions constitute a terrific workload that is constant and unceasing. This division is also responsible for the preparation of material for Line-Up, In-Service, and Recruit training programs designed to develop the most highly trained and skilled police force in the nation.

STATISTICAL—Modern police work is no longer defensive in nature. Today's police administrators must keep themselves fully informed on the when, where, and how of the crime problem in order that available manpower can be distributed most effectively and plans can be developed to wage an aggressive all-out war on the criminal element of the community. In Oakland much of this information is supplied by an IBM equipped Statistical Section which keeps files of punched cards. The cards are machine sorted and processed at terrific rates of speed to produce statistical reports which aid in the operation of nearly every division of the department.

ing programs; (4) proper distribution of available manpower in accordance with need, and (5) a continuing search for new and more effective procedures in both operation and administration.

VICE CONTROL

Strict enforcement of laws dealing with gambling, prostitution, narcotics, the purchase and sale of alcoholic beverages and public drunkenness, form the basis of our crime prevention program. It seems clear that vice conditions attract to a community an element which depends very largely on criminal activity for its sustenance. Individuals who live outside the law, whether they be procurers, narcotics, peddlers, or burglars must be drawn to their own kind and, while statistical data is lacking, even the police recruit is usually able to identify the section of his city where the "undesirable" element is apt to be found.

(See legend on page 37.)

Loose enforcement of vice laws also is a probable contributor to increased juvenile delinquency. The unwholesome influence of vice activity and of the persons who engage in that activity must certainly aggravate the problems of parents, schools and the community in guiding our young people through the difficult years of adolescence. Elimination of vice conditions should, at least in part, eliminate the opportunity for juvenile wrongdoing that can lead to future criminal behavior. This line of reasoning becomes doubly important when considered in relation to the amount of police energy currently expended on juvenile problems in any city of reasonable size.

The most important argument, however, for an uncompromising attack on all forms of vice activity is the effect of that activity on the police agency itself. Where vice conditions exist, they generally exist in violation of the established law and, if there is any laxness in the application of such law, the way is open for the "bribe," the "pay-off," and the "shake-down." It may be assumed that gambling, prostitution, etc. cannot flourish in any community with a reasonably efficient police force without members of that force being aware of it. If prompt and decisive action is not taken, for political or other considerations, to apprehend the offenders and eliminate the offenses, morale and the moral integrity so vitally necessary in law enforcement are inevitably destroyed. The police officer does not come equipped with a compartmentalized psyche that will allow him to function as an alert, aggressive enforcement unit with regard to some types of crime if he is encouraged to overlook other offenses which he must recognize as being inimical with the best interests of the community he serves.

The police officer must be indoctrinated with the idea that he is an instrument of the law and that it is not within his province to permit certain classes of violation to go unchallenged. When this attitude is accepted by every member of the police agency, the way is then clear by means of training, planning and analysis to develop a really effective program of prevention and enforcement. We have, therefore, established an Intelligence Unit to keep detailed records on known criminals who come into this jurisdiction and a closely supervised Special Services Section is charged with seeking out all vice activity before it can become established. It cannot be too strongly emphasized, in our opinion, that control of this most difficult police problem is the very keystone of a crime prevention program.

DISCIPLINE

Some writers have claimed that the problems of direction and supervision of uniformed police are basically no different than the direction and control of employees in other government agencies. It is maintained that other government employees work away from headquarters during all hours of the day and night and on all days of the week and that in some of their functions the element of physical danger exists just as it does in police work. If this were completely true, there would be no need in law enforcement for a higher level of discipline than in any other governmental agency. There would be no justification for the formalized set of ranks found in police departments throughout this country and the world.

It seems to the writer, however, that one great difference does exist. In every other agency of government the employee either performs his tasks in the presence of his supervisor, *or* there is readily at hand some measure of how *much* work the employee has done, and how *well* he has done it. This would only be comparable

POLICE COVERAGE—In order that no section of the city will be without "police coverage" at any time, the change of shift is staggered so that only a part of the patrol force reports off duty at a time. As one group of men complete their 8-hour tour of duty, they report to Patrol Headquarters and remain in their cars until relieved by the oncoming shift.

to the police service if we maintained a ready crew in the station house until a crime was reported and then sent teams out to take appropriate action and prepare a report for our review. Actually, we feel that an officer should be able to spend at least as much time on preventive patrol as he does answering calls for service, and it is the preventive patrol time that is exceedingly difficult to evaluate. We cannot be certain from the fact of three burglaries in a given police beat that six would have occurred had the Beat officer been less alert—nor can we be certain that none would have occurred had he been more alert. It is this aspect of the police service that makes necessary a more considered delegation of authority, a more specific placement of responsibility and a higher level of discipline than are required in other sections of government.

Deputy Chiefs

Prior to 1955, eight division commanders and the officers in charge of several sections reported directly to the Chief of Police. This broad span of control forced the Chief to enter into the detail of administration in an unwarranted degree and made it extremely difficult to insure the uniform application of command policy throughout the department. A 1954 amendment to the City Charter established three positions of Deputy Chief in the Police Department, and on July 1, 1955 three ranking officers were accordingly promoted to that position: One in charge of field operations, or the Patrol and Traffic Divisions; One in charge of the investigative units—Inspectors Division (Detectives), Juvenile Division, and the Internal Affairs Section; and the third was placed in command of internal services, such as Records, Communications, Jail, Planning and Research, etc. The introduction of this new command level into our organizational structure has proved highly successful. Narrowing the span of control has strengthened it and has thus provided a sound basis for the development of a level of discipline that will insure the best possible service from the members of our force in the less tangible functions of preventive patrol as well as in their more readily measurable activities dealing with reported crimes and incidents.

Internal Affairs

It is well to recognize that the police officer is almost daily faced with temptations far beyond the experience of the average citizen, and in the exercise of his normal duties great demands are made upon his judgment and discretion. It is a fortunate police department that has not at some time suffered as a result of one or the other of these circumstances. We have, therefore, found it advisable to follow the lead of such outstanding departments as Los Angeles in establishing an Internal Affairs Section charged with the responsibility of investigating citizen complaints against police personnel. Where the complaints are found to be groundless, as is most frequently the case, the interests of the city and of the department are served when misunderstandings are resolved or the malicious accuser is charged. On the other hand, when investigation detects individual officers who do not possess the high levels of character and judgment which are absolutely necessary in modern law enforcement, the way is opened for their dismissal.

It must be emphasized that the Internal Affairs Section is not designed to relieve line commanders of responsibility for developing and maintaining proper discipline. The Section, rather, is intended to serve as an aid to, but not a substitute for, command action. Breaches of ordinary discipline, violations of department rules, etc.

are seldom referred to Internal Affairs unless the commanding officer requests aid in the investigation. The Internal Affairs Section is invaluable as a guarantee of a uniform procedure in investigating and reporting on those matters which fall into its jurisdiction. This uniformity, backed by uniformity of command action on the results of the Section's investigations, is vital in the same way that tight control of vice is vital. Just as discipline and morals are damaged when certain types of lawlessness are tolerated, so are they damaged by an inequitable administration of disciplinary actions. A sound Internal Affairs Section promotes rather than destroys the *Esprit* of the department.

Inspections

A third step to improve the level of discipline in the department was the inauguration of semi-annual full dress inspections. These inspections are participated in by all members of the force, both uniformed and plainclothes, who are not actually needed for duty. These have had the result of causing men to replace worn equipment much sooner than they ordinarily would have and have instilled in individual officers a sense of pride in their appearance that far exceeds our past experience. The inspections are competitive among the several divisions and we feel that they have been decidedly successful in raising the level of discipline throughout the department.

TRAINING PROGRAMS

Nearly all police departments provide for some sort of recruit training program, but many have yet to develop adequate procedures for formal in-service training. In Oakland we have found, as have many other departments before us, that recruit training, no matter how thorough it might be, is not enough. New laws, new interpretations of existing laws, and ever-changing policy require that some means be established to keep the average officer up-to-date. Furthermore, the public has come to demand more and more in the way of police service and the officer working on the street today must be a near expert on a variety of subjects. And finally, as cities and police forces grow and specialized divisions are established, the tendency toward over-specialization must be opposed at all costs. Members of the Patrol Division should certainly participate in traffic law enforcement and traffic officers must be prepared to handle other police incidents than traffic violations or accidents. The only way to insure that members of each division will remain informed on the responsibilities and functions of the several other divisions is through a continuous program of in-service training.

Line-up Training

An initial step in our in-service program was to require all personnel to report for duty thirty minutes before their normally scheduled relief time. Each division holds its own line-ups and this thirty minute period each day is devoted to problems of the particular division and to training bulletins prepared weekly by the Personnel and Training Division. This device has been particularly invaluable in the line divisions in that current crime or traffic problems can be called to the attention of all personnel and potential solutions discussed. There is little doubt that this practice has had a beneficial effect on the local crime rate. An officer working in one small section of the city during one eight hour segment of the day cannot be kept apprised of the over-all problem in any other way and, if he is to be an effective enforcement unit, he must understand and appreciate the total problem.

WAGON CREWS & CRUISERS—Prior to 1955 the "Wagon Crews" spend a substantial part of their time at police headquarters waiting for radio calls on arrests. They then went out and brought the arrested person into the jail. Because the large wagons were difficult to drive and lacked maneuverability, their use, and the use of the men assigned to them, was pretty much limited to the transportation of prisoners. During 1955 the old wagons were exchanged for panel trucks which are called "Cruisers," and four of them operate on each shift. Their primary function is still transporting prisoners, but when they are not busy with this task, they cruise throughout an assigned area and supplement the regular patrol force. These Cruisers have been a definite asset during the past year.

In-service School

Line-up or Roll-call training, however, serves only to inform the officer on current problems and policies. It does not fully answer the need for deeper education in the many complex subjects which are part of the administration of criminal justice, and it cannot be expected that all officers will make the necessary effort to educate themselves in these matters. To answer this need, we have established an in-service school that runs almost continuously. A few officers are detailed from each division to attend the school full-time for a five day period to study such subjects as laws of arrest, laws of search and seizure, juvenile crime control, traffic law enforcement, etc. When all members of the department have completed a particular five-day course, a new curriculum is developed and the cycle begins again. Instructors are, for the most part, drawn from within the department, although we do not hesitate to go to other departments or agencies when qualified instructors are not available in our own.

This type of program, of course, means that the avail-

TECHNICIANS—Specially trained "Technicians" are a part of the patrol force, but have a primary responsibility for the collection and preservation of physical evidence at crime scenes. These men are trained in photography, fingerprinting, the making of plaster or moulage casts of shoe prints, tire tracks, tool markings, and in innumerable other phases of scientific crime investigation. Here a Technician dusts a safe with fine powder to develop any latent fingerprints, that a careless burglar might have left behind, while his partner takes notes.

able force is depleted by the number of men assigned to the school at any given time, but we are certain that the improved performance of officers who have gained a more thorough knowledge and broader understanding of their jobs more than justifies the man-hours expended.

MANPOWER DISTRIBUTION

District Stations

The City of Oakland has a present population of approximately 400,000 and covers a land area of slightly more than fifty-three square miles. For many years the Patrol Division of this department operated with a central headquarters in City Hall and two district stations in the Northern and Eastern sections of the city. These stations had so become a part of the city scene that attempts by previous police chiefs to abandon them were abruptly discouraged. Yet, a careful study of the use of district stations in this city convinced our command group that modern methods of communication and transportation had eliminated all need for a decentralized patrol operation. The study established these several facts: (1) Only minimal use was made of the stations by the public since nearly all complaints or calls for service are today received via telephone, and are routed directly to the central communications section; (2) The operation of station houses kept patrol captains and lieutenants inside during most of their tour of duty, thus reducing supervision on the street; (3) The existence of definite patrol districts encouraged a compartmentalized attitude toward patrol coverage that is undesirable, and (4) The time expended in moving officers from a central headquarters to outlying beats would be insignificant when compared to the man-hours saved by relieving station-house personnel for street duty. In addition to these important points it was recognized that, if a District Commander is to carry out his responsibilities, he must be delegated the necessary authority. This delegation of authority to several commanders who are all concerned with the same function, patrol, greatly increases the problem of attaining uniform enforcement.

Based on these findings, recommendations to close the district stations were made to the City Manager and were subsequently approved. The action was at first protested both within and outside the department, but a forthright presentation of the basis for the decision to all members of the force and to as many civic groups as we could reach soon stilled the criticism. More men on the street, better supervision on the street, and a more closely knit patrol operation have facilitated the development of a far more effective program of prevention and enforcement than we had in the past.

Beat Survey

Further analysis of our patrol operation revealed the existence of three serious deficiencies which tended to reduce its effectiveness: (1) There were still not sufficient patrol cars available to answer all of the calls for service and yet leave a substantial part of each shift free for preventive patrol; (2) The existing patrol beats did not provide for an equitable distribution of the work-load (some Beats handled seven times as many calls for service as others), and (3) The assignment of personnel was such that vacancies created by illness, injury, emergency leave, etc. had to be filled by juggling regular beat assignments.

The first of these deficiencies was resolved in two ways: (1) Reduced use of foot patrol, and (2) Increased use of one-man radio cars. Prior to the present reorganization, this department maintained 16 foot partol beats on each of three shifts. A study of the functions of our foot patrolmen convinced us that while they do perform a valuable service in business districts, they are not as effective enforcement units as are radio cars. Forced by a reduced personnel strength to decide between the two forms of patrol, we chose the motorized form and it has been completely successful. Increased mobility and constant communication with headquarters have intensified coverage in the downtown business section, and drunks, vagrants, prostitutes, etc. have all but disappeared from the streets in our blighted areas. At the present time only four foot beats on two shifts are used.

This department has for several years used one-man patrol cars on the day shift in residential areas. When it became apparent that we needed more patrol coverage and that there was little possibility of obtaining an increased total personnel strength, the obvious solution was to follow the lead of many other progressive de-

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partments and expand the use of one-man radio cars. We now operate with a very few two-man cars on the evening and night shifts, and these function as one-man units when the man-power shortage becomes particularly acute. As a supplement to the one-man cars, our old, heavy "wagons" have been replaced by four light panel-type trucks on each shift. These are manned by two men each and are used to transport all prisoners from point of arrest to jail. They also cover-in on "hot" calls and perform routine patrol when not otherwise occupied. By increasing the number of radio cars on the street and giving each officer a smaller area of responsibility, we have arrived at a point where we are actually able to exercise the concept of preventive patrol.

The final step in improving our distribution of man-power was to actually re-design the patrol beats along the lines described by O. W. Wilson in *Police Administration.*[1] The new beat design insures an equitable distribution of the existing work-load among the men available for assignment on each shift, and this, in turn, permits each officer to expend a considerable part of his time in checking on specific crime hazards, known characters he finds in his beat, and performing all of the other tasks that will act to reduce the crime problem. Within this beat design patrolmen and supervisors are so assigned that they work the same days and are relieved on the same days. A Sergeant, then, may be better held responsible for the performance of his subordinates and he is better able to see that an acceptable level of performance is maintained.

[1] Wilson, O. W.: *Police Administration,* 1st Ed. New York, McGraw-Hill Book Co., Inc. 1950, pp. 473-512.

THE CONTINUING SEARCH

The final phase of our reorganization is not completed —and it can never be, for it consists of an unending search for ways to raise the level of our service and reduce the exposure of our population to criminal attack. Our Statistical and Planning and Research Sections are engaged in seeking out new or improved procedures of crime analysis, operation, administration, etc. that will keep us moving toward the ultimate goal, and every division or section of the department is charged with the constant re-appraisal of its own procedures in order that the total operation may be improved.

The reader will certainly have noted that nothing new or revolutionary has been discussed in the preceding pages. All we have done is take sound principles of police administration and adapt them to the structure of our own department. That these moves have been in some degree successful is best evidenced by the fact that during the first six months of 1956 the State of California followed the National trend with substantial increases in all classes of Part I Crime. In this city we experienced substantial decreases during the same period in all classes of major crime except Murder and Aggravated Assault, neither of which are particularly amenable to police control. ★★★

Do YOU Really Know Guns?

An opportunity to find out how you shape up as an 'expert witness' on guns

By Walter J. Howe

IN the early days of court "ballistics"—and that was only a few decades ago—justice often came off scarred because the impression existed that a man who was a regular hunter or shooter—and thus somewhat familiar with firearms and ammunition—was a qualified expert witness. It took quite a while to dispel this thinking and even now there is room for much improvement. Nevertheless as more information on the subject has become available, more people connected with law-enforcement and the courts have learned to require solid proof of qualification from expert witnesses in matters on firearms.

To be a firearms expert requires a good deal more than a knowledge of how to use a comparison microscope, or how to determine the type of firearm that a suspected cartridge case or bullet came from.

Above all, the true firearms expert is one who has learned that almost anything can happen when firearms and ammunition are involved.

Admittedly, 99 per cent of accidental discharges of firearms come as a result of ignorance in handling arms. However, there is a fraction of the remaining one per cent that often results from a combination of odd and often unsuspected circumstances.

In the following described SITUATIONS you, the reader, should imagine yourself present in a sheriff's office. The sheriff has asked you—reputed to have a good knowledge of firearms—to "sit in" and advise him as to the probable truth of the statements being made in each case by a person who is being questioned in connection with the shooting of another person. Read each SITUATION over very carefully and then determine whether or not the suspect is telling a plausible story. Also, remember that you will be required to explain the thinking behind your decision.

SITUATION ONE

"I had just brought my level-action .30-30 rifle home from the gunsmith shop where it had been to have the extractor repaired. I wanted to make certain the repair was good so I dropped a live cartridge in the chamber and slammed closed the lever on this old smooth-operation rifle very hard and the cartridge discharged. I can tell you my finger never touched the trigger of that rifle. In fact, after the 'surprise' wore off, I particularly noticed that, although the cartridge had fired, *the hammer was still in full-cock position.*"

SITUATION TWO

"I nearly died from fright. It was a brand new, semi-automatic .22 rifle and I was using new cartridges. I opened the bolt, dropped a cartridge in the chamber, let the bolt slam closed—and bang, the gun went off, just like that. I knew I didn't pull the trigger because my left hand was on the stock forearm and my right hand was somewhere in mid-air, after letting go of the bolt handle, when the gun fired. I found the ejected, empty cartridge case on the floor and there was absolutely no firing pin mark on it."

SITUATION THREE

"This lever-action rifle is just about the best. I bought it a few months ago from a fellow who received it, in the factory box, as a Christmas present. The only reason he ever sold it was because he got another one as a present. I think that rifle must have been defective or it couldn't have gone off as it did. After all, the hammer was at

** Courtesy of The American Rifleman, 1600 Rhode Island Avenue, N.W., Washington 6, D. C.*

Shotgun Wounds—

When a 12 gauge shotgun is fired at a person from a distance of about ten feet or less, the shots come in such a compact mass that they will blow a hole through the abdominal or chest walls up to about the size of a silver dollar. Beyond ten feet the shot will have scattered sufficiently so that there will be a pattern of individual shot penetrating the body but without a central hole in which the tissues have been completely carried away.

When the shotgun has been held in direct contact or very close to the skin, we see burning, singeing and charring of tissues much the same as in contact wounds due to revolvers and pistols.

If the victim is struck in some thinner portion of the body, such as the neck or shoulder the wound of exit will be very large and lacerated, provided the structure is thin enough for the entire load of the shot to emerge. If the penetrated part of the body is thicker, only a few of the shot may completely penetrate the tissues, causing a wound of exit which may be small, even smaller than the wound of entrance.

Shotgun entrance wound behind the right ear. The skin edges are charred from the muzzle blast.

From Snyder, L.: Homicide Investigation, courtesy of C. W. Muehlberger.

Exit wound on the same subject. This illustrates that when fired at close range, the effects of a shotgun may be devastating.

the half-cock position, and that's 'safety' for these hammer guns. Yet, when I just barely touched the trigger—sort of checking to make certain it was on 'safe'—the hammer fell and discharged the cartridge. I pride myself on being a careful man with guns; that's why the first thing I always do after loading a cartridge into the chamber is to let the hammer down to half cock."

SITUATION FOUR

"I can't understand how it happened. This double-barrel shotgun had never given me any trouble and I always take good care of it.

"For example, take the day before the accident. I was waterfowling and dropped the gun in shallow water when I was beaching my boat. Soon as I got home—knowing that the salt water dunking would ruin the gun guts—I really worked it over. I not only cleaned the bore but took the stock off and soaked the mechanism in kerosene overnight.

"The next morning, I put it back together when my friend invited me to go duck hunting. Shortly after we got in the duck blind, I loaded the gun and, as a matter of habit, just pressed the front trigger. It went off. Why and how I'll never know. Maybe it's wrong to check on the gun safety by pressing on the trigger—but that's what I have done for years. You see, this shotgun is one of those models where the safety is automatically put on 'safe' when you press the top lever to open the gun. I've watched the safety slide from 'fire' to 'safe' and used to be fascinated by this feature when I first got the gun.

"I never had any cause to believe this device would fail but it must have. The first thing I did after the gun accidentally fired was to look at the safety, and I saw that it was at the 'fire' position. I know that I didn't slide the safety from 'safe' to 'fire.'"

SITUATION FIVE

"I never thought much of this gun because I don't like foreign automatic pistols. But, when this fellow offered it to me with a box of cartridges, an extra magazine, and a holster, as payment for five dollars he owed me, I thought it was a good deal. I figured I could resell it for at least $20.

"I admit we had been arguing before he offered me the pistol (Nambu Model 94, 1934, caliber 8 mm.) but things had calmed down by the time he handed it to me for examination. I accurately remember that he took the gun from the holster and said, 'Don't touch the trigger because I think it's loaded.' He passed it across the table to me and I was thinking of what he said about its being loaded so I was careful not to get my fingers anywhere near the trigger. Instead, I grabbed it around the frame just below the slide—something like you would grab a snake behind the head—and it went off. Sure, it was silly to be passing a loaded pistol around like that but I just wasn't thinking of the safety rules at that time. I may be guilty of carelessness but I never touched the trigger."

Explanations of the Situations

EXPLANATION ONE

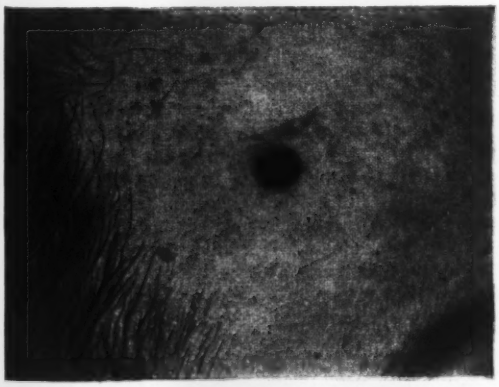
Yes, this can and has happened, although it is not an everyday occurrence by any means. With some lever-action rifles where the front firing pin is not spring-loaded, it is possible to discharge a cartridge by holding the gun very firmly and slamming the lever closed sharply. Conditions that favor an accidental discharge of this kind are: 1) the mechanism and receiver are well worn and all parts move very freely; 2) a cartridge, rather than being permitted to feed from a magazine, is inserted in the chamber and then the lever violently closed; 3) the cartridge has an extra-sensitive or protruding primer.

An accidental discharge of this sort results from one of the laws of motion that says in part, "A body in motion tends to stay in motion. . . ." Although the design of the gun may be such that the forward part of the firing pin cannot contact the primer of the cartridge until the locking mechanism is closed,

Bullet Wounds—Entrance and Exit

Wounds of Entrance—The skin is stretched by a bullet in its passage through, and then returns to its former position. Therefore, the size of the wound of entrance appears to be smaller than the diameter of the bullet which made it. In this process a small area of skin around the bullet hole comes in contact with the sides of the bullet where it wipes off smoke and grime which is deposited as a gray ring around the wound entrance. If the bullet strikes the skin at an angle, the gray zone around the hole will be somewhat wider on one side and correspondingly narrower on the other. Generally there is only a small amount of bleeding from wounds of entrance, due to the fact that tissue destruction is not great at that point.

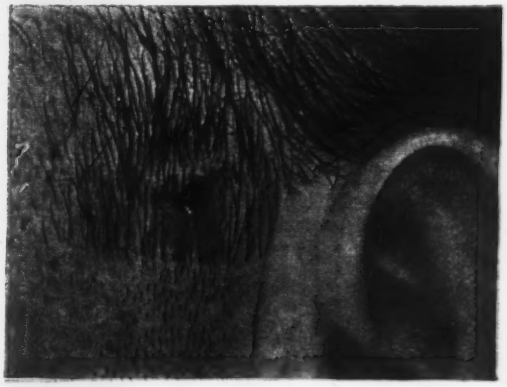
Wounds of Exit—As the bullet passes through the body, its velocity is rapidly retarded and it has a tendency to pack the tissues in front of it. If it has enough momentum to go clear through the body, it finally bursts its way out through the packed tissues. Consequently, wounds of exit are much larger than the bullet, are ragged, torn, and generally the escape of blood is much greater than in wounds of entrance. Often shreds of fat or other internal tissues will be extruding from the wound.



From Snyder, L.: Homicide Investigation, courtesy of C. W. Muehlberger.

Wound of entrance on the forehead. The absence of smudging and tattooing indicates that the muzzle of the firearm was not held close to the head. Note that there is practically none of the gray ring around this wound. This is due to the fact that the skull is directly under the skin and prevents indentation and stretching of the skin at this point. Consequently, there is but slight contact between the side of the bullet and the skin edge.

Exit wound of the same bullet. Note the fact that the exit wound is much larger than the wound of entrance, is ragged, torn, and shows more tissue damage.



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the fact remains that the comparatively heavy firing pin, carried along at a relatively high speed by the massive bolt, continues to move forward even when the forward motion of the bolt is arrested.

Experiments conducted by this writer seem to indicate that this type of "inertia firing" is more common (if the word "common" can be used at all) in firearms utilizing rimmed rather than rimless cartridges.

Aside from the conditions mentioned above as "favorably" affecting this type of discharge, it is also worth noting that an older gun, on which the firing pin stop area has become worn, is inclined to be vulnerable since firing pin protrusion is increased.

So you see, you can't say that because there was a firing pin indentation on the cartridge the trigger was pulled or the hammer fell.

EXPLANATION TWO

This "slam firing" has happened and will continue to happen just so long as there is a minimum and maximum tolerance for rim thickness on .22 caliber rim-fire cartridges and a minimum and maximum headspace tolerance on .22 caliber rifles.

As anyone knows who has studied the make-up of a rimfire cartridge, the priming composition is contained within the rim of the cartridge.

This priming composition is located entirely around the rim of the cartridge. Thus when such a cartridge is seated, no matter where it is struck on the rim, it is designed to go off. In the situation described it was a case of the bolt, which did not have sufficient minimum headspace, "squeezing" the rim of the cartridge and setting it off. Such an accidental discharge, quite rare, is the result of a gun with extreme minimum headspace in combination with a cartridge having maximum rim thickness.

Here then we have an instance of a firearm being discharged without the trigger being pulled and without the fired shell showing any evidence of firing pin indentation.

EXPLANATION THREE

In many "hammer type" (exposed hammer) rifles, the half-cock is the only mechanical safety on the firearm. The half-cock functions as a safety by virtue of the end of the sear (or it could be the upper end of the trigger if there were no intermediate sear connection) resting securely in a deep notch in the hammer. No normal amount of pressure applied to the trigger will release the hammer. In practically all guns it is possible to force the hammer out of half-cock notch (or break one of the engaging surfaces) by applying considerable force to the trigger. Thus, it should never be assumed that a gun on half-cock is absolutely safe from discharge.

In the situation described, the man evidently had his gun in the "false half-cock" position. This comes about as the result of a person letting the hammer down to the half-cock position while manipulating the trigger. In such cases the tip of the sear (or trigger) does not come to rest in the deep notch in the hammer, but rests on the forward edge of this deep notch and can be jarred off or touched off by a few pounds of finger pressure.

A gun on false half-cock is extremely dangerous and even though the hammer may fall only a short distance from this position, more often than not the cartridge is set off.

EXPLANATION FOUR

The type of "automatic" safety that the man describes is very common in double-barrel shotguns. Usually, there is a little bar or pin inside the gun, connecting the underside of the top lever to a stud on the underside of the safety. Thus, when the top lever is moved it moves the bar or pin and the safety of the gun is put on automatically as the gun is opened. When the old shells are extracted, new shells put in, and the gun closed, it is still on the safe position and the user must push the safe to the forward position before the gun can be fired.

In the case of the gun described in this situation, it is evident that the man in cleaning the gun did not replace the bar or pin that connects the top lever to the safety, and thus the automatic feature did not exist at the time the accident occurred. It is very easy to drop or forget about this bar or pin in some guns, since it is loose in the stock and can fall out unnoticed if the gun is dismounted. An examination of the "defective" gun will reveal when this pin or bar is missing.

EXPLANATION FIVE

The model of pistol that was involved in this situation is inherently a dangerous one. Along the left-hand side of the receiver there is a bar that is part of the linkage from the trigger to the firing pin. When the trigger is pulled this bar is pivoted and the firing pin released. Actually, the trigger does not have to be pulled to discharge this gun. It is only necessary to squeeze the bar and the firing pin will fall and if the gun is loaded it will be discharged. Although the person holding the gun might receive quite a surprise and a little injury on his hand when the gun goes off, the fact remains that anyone unfamiliar with this feature could unknowingly press this bar and thus fire the pistol. ★★★

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POLYGRAPH and INTERROGATION

Edited by ROBERT D. STEEL

The Importance of Words In Questioning Techniques

By William Dienstein

EDITOR'S NOTE: *Professor William Dienstein took his A.B. degree at Stanford University in 1931, the M.A. degree at the University of California in 1939, and during 1952-53 took advanced graduate work at Stanford. He organized and administered the Department of Criminology at Fresno State College from 1946 to 1950 and is now Associate Professor of Social Science and Criminology at that institution. During World War II, he was an instructor in the Provost Marshal General's School, 1942-44; Criminal Investigator and Administration Chief of the Crime Laboratory, Philippine Islands, 1944-45; Korean action—Assistant Chief Criminal Investigation, Sixth Army, 1950-52; Major, M.P.C. U.S.A.R. Professor Dienstein is author of the books* Technics for the Crime Investigator *and* Are You Guilty? *and a contributor to the professional journals.*

ALTHOUGH language is the primary means of communication with the subject in a lie-detector test, little attention has been paid to the use of language (or words) in framing questions. The words used may be a most important factor in determining the reliability and validity of any lie-detector test.

The polygraph itself is a reliable instrument for the measurement of blood pressure, pulse rate, respiration, and electro-dermal responses. When the norm of the graph for respiration, blood pressure, pulse rate and electro-dermal response which was secured under normal conditions is altered (granted that the subject is a fit person for a lie-detector test), the subject may have reacted to questions which required fabrication to conceal guilty knowledge of the case under investigation. But he also may have reacted to the words used in the framing of the question rather than to the question itself.

It is the purpose of this paper to introduce the concept that words themselves and the manner in which they are used by the operator in the construction of the question are important to the validity and reliability of the detection of deception technique.

The importance of words and language in questioning techniques has been stressed in interrogation. The effective investigator will "speak the language of the subject. . . . This does not mean that the investigator will talk down to the subject. . . . It does mean to talk on the level of the subject, speaking so that the subject can understand the question."[1]

Even though the questions used in a lie-detector test are drawn up so that they can be answered "yes" or "no," are short, and are comparatively few in number, the examiner must be concerned with the language of the subject. The examiner in the preparation of his questions uses words. Words are symbols: they stand for ideas, notions, concepts, values, realities. The user of the words often assumes that the interpretation he gives to words is the common interpretation. This assumption is unwarranted. Words are not the things for which they stand. Words point out or denote things. When referred to, things may not be in view or may not be subject to view; therefore, the hearer must interpret the words. His interpretation is limited by his experience.

The subject's vocabulary may be limited in general, or may be limited with respect to certain fields. A woman may not be familiar with mechanical terms; a stranger to an oil-country may not know the terms used by the workers in the oil fields; terminology outside one's own profession may be unfamiliar. In the following peak-of-tension test, used as an illustration, the examiner should be certain that the subject knows the meaning of the

Address: Professor William Dienstein, 4337 North Moroa Avenue, Fresno, California.

[1] Dienstein, William: *Technics for the Crime Investigator*, Springfield, Illinois, Charles C Thomas, Publisher, 1952, p. 104-5.

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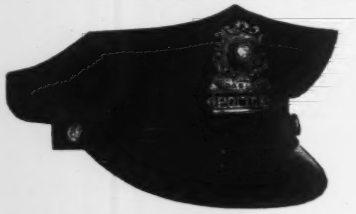

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words he is going to use to describe the object which has been employed in the commission of a murder. The murder weapon was a 2 x 4, and the murderer is the only one who knows what instrument was used.

Was a rock used to strike X?
Was an axe used to strike X?
Was a tire iron used to strike X?
Was a pipe used to strike X?
Was a hammer used to strike X?
Was a baseball bat used to strike X?
Was a tree branch used to strike X?
Was a 2 x 4 used to strike X?

If the subject does not recognize the weapon used by the name "2 x 4" (he may think it is a pipe, as was found in a pre-test interview), it is possible there would be no reaction to the question even though he is guilty, although there may be a reaction to the question: "Was a pipe used to strike X?" The examiner should visibly illustrate each object he desires the words to denote in the pre-test interview. The *referrent*, the specific object for which the word stands, must be of common knowledge to the examiner and to the subject.

In addition to the difficulty presented in trying to insure accurate denotation, there is the problem of connotation. Connotations of words used in everyday life differ from place to place and from individual to individual. The examiner should be aware of what is called the "affective element of language,"[2] as this element may lead to a response on the machine that would invalidate the test or cause wrong conclusions to be drawn from the test.

Practically all words evoke a response from the hearer —pleasant or unpleasant—depending on his past experiences. It is as if the word itself carries with it an "aura of personal feelings." As examples of groups of words which carry undesirable connotations: words dealing with physiology, sex, race, religion, politics. On an individual basis, an everyday, ordinarily accepted word may have a special meaning for the individual, based on his past experiences which are evoked by the use of this word.

For example, while in college a young man was suspected of thefts in his fraternity house. He had to bear the suspicion of his fraternity brothers; was hauled into the Dean's office; had great difficulty in proving himself innocent; a lie-detector test was inconclusive, although a stolen cigarette case was found in his room. He was cleared only because the lie-detector test run on another boy showed guilty knowledge, and this boy broke down and confessed. The words "cigarette case" bring back disturbing memories to the falsely-accused youth.

Because of the unique experience of one's life, the affective connotations of words are unique for the individual. Certain words arouse strong feelings—emotions. The meaning of the word then is actually in the mind of the subject, and it may have an entirely different meaning in the mind of the examiner. Words which have affective connotations for us create in us an emotional state which in turn involves physical change within us which sometimes is demonstrated overtly.

As an example of the psychological mechanism which operates in the latter instance, let us assume that we dislike Pete for good and sufficient reasons so far as we are concerned. We haven't liked Pete for a long time and we avoid him as much as possible. Then one day we meet George to whom we take an immediate dislike. If we examine the "why" for the dislike we may come up with something like this: We noticed something about George that reminded us of Pete. This observation very likely took place on a subconscious level. We therefore see Pete in George; we then project our dislike of Pete onto George. And no matter what George does, we will always be suspicious of him because of the subconscious identification with Pete.

We may alter the situation somewhat, and instead of projecting our dislike onto another individual we may project it onto a label. Let us assume that we associate a certain descriptive or identifying word with Pete whom we dislike, a word of race, religion, politics, nationality or sex. Every time we hear the label we associate it with Pete. Even though Pete may not be around when we hear the label and we are not consciously thinking of him, we dislike whatever it is to which the label is attached. We do this because the label recalls to us the unpleasantness surrounding Pete. We have responded to the label as we would have responded to Pete.

Our emotional reaction to words is culturally condi-

[2] Hayakawa, S. I.: *Language in Thought and Action*, New York, Harcourt, Brace and Company, 1949, p. 82-92.

tioned and every time we hear the word "black," or "nigger," or "Wop," or "Jew," or any word pertaining to a nationality, religion, or ethnic group, we reject whatever it is attached to even though we may never have had any direct experience with any member of that particular group. The strength of the emotion attached to the specific word will vary in proportion to the degree of the rejection or unpleasantness associated with it as well as to the degree of emotional stimulus attached to the situation wherein the word is used. "Commie," "Red," fascist, nazi, homosexual, queer, Republican, Democrat, egghead, intellectual, scholar, all are examples of words which may be emotionally charged, and the application of any emotionally charged word to a situation alters the situation to which it is attached.

It follows then that certain words which the examiner uses in his questions may have a connotative meaning for the subject which will create such degree of emotion that physical changes become manifest in the graph. *The subject reacts to his interpretation of the word or words rather than to the question.*

If the word is remembered vividly as a part of a terrifying experience, the word is capable of arousing the same feelings as were aroused by that experience. Sometimes the sound of a word will imply or evoke another word or recall an unpleasant situation to the mind of the hearer with consequent reaction. The word has set up a signal reaction to which the subject has responded even though his response is not appropriate to the situation at hand. The picture evoked by the word in the mind of the subject may be totally different from that in the mind of the examiner. The adverse reaction recorded on the machine may actually have no relationship to the case in question.

Consider the following: A group of six men were accustomed to play poker in their office after lunch. No one had paid much attention to winnings or losses, as the stakes were small, until the charwoman had found a marked card while cleaning the room. The president of the company was concerned, as three of the men in the group were being considered for a top-level promotion. All six were asked to submit to a lie-detector test. There were two noticeable reactions to the question: "Did you ever cheat at poker?" One subject confessed that years before (and he gave places and names) he had lost a considerable sum playing poker with his business associates. He paid his debts by checks and stopped payment on the checks the next day. The holders of the checks reported this to his employer, who called him a cheat, lectured him severely, and fired him as unreliable because he did not want to pay justly-owed debts but tried to "cheat his way" out of them. Although this episode had occurred a number of years previously, the hardships resulting from loss of his job and the stigma attached to him had made the man react to the word "cheat."

Joseph W. Harney reports experiment results which verify findings in the literature that "apparent pseudo-deception respiratory responses" may be produced by non-deception test situations.[3] It can logically and empirically follow that words can create the same effect.

Words which may set off signal reactions in the mind of the subject may be everyday words but to the individual are "loaded" words, "fearful" words, "forbidden" words, "unspeakable" words, words having a maximum affect.[4] Such words as communism, subversive, cheat, steal, kill, sex, pervert, homosexual, and the like can create any of the respiratory responses or criteria which are indicative of deception. These responses are:

1. Suppression at point of deception.
2. Respiratory block (a seeming holding of breath).
3. Rise in base line of recorded respiration.
4. Respiratory suppression preceding stimulus followed by deeper respiration at point of deception.
5. Regularity of respiration up to and through the deception stimulus.
6. Respiratory irregularities up to point of deception, followed by regular respiration.[5]

When the examiner reads and discusses all the questions with the subject in advance of the test, it may be possible to eliminate words with connotative meanings

[3] Harney, Joseph W.: The Analyses of Respiratory Criteria in Deception Tests, a Possible Source of Misinterpretation. *J. Criminal Law and Criminol., XXXIV*:268-73, Nov.-Dec. 1943.

[4] Hayakawa, S. I.: *Op. cit.*, p. 189.

[5] See Trovillo, Paul V.: Deception Test Criteria. *J. Criminal Law and Criminol., XXXIII*:348-9, Nov.-Dec. 1942.

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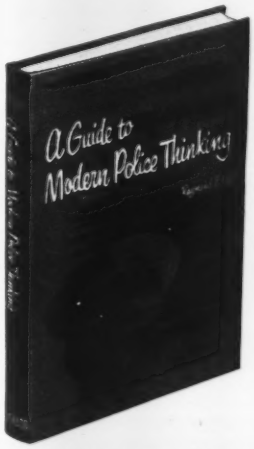

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for the subject. Even though there has been a reading and discussion of the questions with the subject prior to the test, the examiner should always be aware that not only the words, but the manner in which they are used and spoken while giving the test may invalidate the record.

An affective element in speech is the tone of voice, its loudness or softness, its pleasantness or unpleasantness, its variation in volume and intonation. A pause during the reading a question, an inflexion of tone, may convey meaning to the subject not intended by the examiner. Contrast:

> "Did you ever steal anything from the Brassy Inn?" to "Did you ever steal anything . . . from the Brassy Inn?"

In this case a reaction was obtained to the first part of the question before the pause which had no bearing on the theft for which the test was being given. The subject at the word "steal" vividly recalled stealing some coins from his mother's purse as a child, for which he had been severely punished.

The tone of voice of the examiner may be indicative of his personal reaction to certain words and may convey his feelings to the subject. The examiner who dislikes words associated with sex may reveal his feelings by the tone of his voice when he speaks the words.

The most that the polygraph can do is to indicate that the subject responds physiologically to certain verbal stimuli. It requires much more work to determine why the subject is responding, and if the responses indicate an attempt at lying. The lie-detector cannot give those answers. The questions to which the subject lies may present leads for further investigation, may indicate whether or not the question is pertinent, but cannot solve the case. If, as a result of the polygraph examination, the subject is convinced that his lies have given him away and confesses, the confession without independent corroborative evidence is valueless.

It is therefore concluded that the polygraph must be used only by qualified examiners and with caution; that certain principles must be kept in mind by the examiner in the construction and presentation of the questions used. These principles are set forth as follows:

I. Before the Test

1. Find out as much as possible about the case under investigation.
2. Find out as much as possible about the subject to be interrogated.
3. From the information obtained, prepare several lists of questions consisting of from ten to fifteen items each.
   a. Each question must be so worded that an answer is possible.
   b. Each question must be so worded that an answer is required.
   c. Each question must be so worded that a "yes" or "no" answer may be given without elaboration.
   d. Each question must be a complete sentence.
   e. Each question must be clear, simple, concise.
   f. Each question must cover but a single point.
   g. Each question must be free of "loaded" words, words that in and of themselves will arouse emotions, unless the use of such words is recognized for a specific purpose.
   h. Some of the questions must include facts about the offense known only to the perpetrator and to the investigators.
   i. Questions, the only purpose of which is to arouse the subject emotionally, should be avoided.
   j. Critical or relevant questions should not succeed each other. In a series of ten questions, a maximum of three should be relevant, and these should be spaced at about questions 3, 6, and 9, or 3, 7, and 10. This procedure will permit of a more accurate reading of the graph. It has been advocated that only one relevant question should be included in a series of ten using either the peak-of-tension or the relevant-irrelevant technique, and that the test should be repeated at least nine times.
4. Arrange a place for the lie-detector test and subsequent interrogation that is free from visual and auditory distractions and interruptions of any kind. No one should be present but the examiner and the subject.
5. Create a satisfactory rapport with the subject.
   a. Engage in preliminary conversation unrelated to the investigation.
   b. Explain the function and operation of the lie-detector.
   c. Point out what it is that the lie-detector measures.
   d. Tell the subject that he will be informed as to the nature of the questions to be asked.
   e. Explain your part in the investigation.
   f. Impress the subject with the fact that you are as objective as the machine.

6. Read to the subject the questions to be used in the test.
   a. Ask the subject if he wants any of the questions explained.
   b. Ask the subject if any of the words trouble him.
   c. Inform the subject that only a "yes" or "no" answer is to be given.

II. During the Test

7. Do not reveal your feelings in the asking of the questions.
8. Talk clearly, slowly, carefully, without dramatics.
9. Remember that the manner and method of interrogation for the lie-detector is different from the manner and method of interrogation without the lie-detector. In the former, the examiner seeks to determine to which of several questions the subject is lying. In the latter, the interrogator seeks to gain information from the subject by getting him to talk, and through this talking to reveal information that will help to prove his participation in a specific offense.

III. After the Test

10. Do not interrogate the subject about his responses to questions as reflected on the graph while he is hooked up to the polygraph. There should be a break in the testing and the subject released from the blood-pressure, pulse, respiration, and electro-dermal units.
11. Maintain a matter-of-fact, reasonable attitude in the interrogation. Do not engage in histrionics, for then a new situation inconsistent with proper lie-detector procedure is introduced.
12. Point out what your findings reveal and ask, what, if anything, does the subject have to say about the findings.

In view of the foregoing, it becomes evident that an unscrupulous or unqualified examiner can make a mockery of the use of the lie-detector in the detection of deception. Now that the lie-detector is used to screen personnel in banks, business establishments, security installations, government agencies, and the like, it becomes mandatory that the greatest caution be exercised in the preparation of the questions to be asked and in the interpretation of the resultant graph. The credibility of the lie-detector depends upon the individuals who are its operators.

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Participating firms and organizations will set up their exhibits in the Grand Rapids Civic Auditorium. Major discussion and conference sessions will be held in the Auditorium and in the Pantlind Hotel.

An attendance of more than 3,000 is anticipated.

Editor's Note: Further information on specific division activities may be secured through the respective chairmen or from: Norb Hildebrand, Publicity Chairman, Highway Traffic Center, Michigan State University, East Lansing, Michigan.

The Certification Program of the Academy for Scientific Interrogation

EDITOR'S NOTE: *This is the second in a series of three articles on the Certifications Program of the A.S.I. prepared by Albert L. Breitzmann, Secretary of the Certifications Committee.*

PREREQUISITES TO ELIGIBILITY

EACH applicant before he or she may become eligible to receive such certificate or other evidence or recognition:

1. Must have been declared eligible for Active Membership in the A.S.I.
2. Must establish in a manner satisfactory to the Certifications Committee that he is engaged in the practice of lie detection, and
   (a) That he is of high ethical and professional standing, and
   (b) That he has received adequate training in lie detection.
3. Must make application for investigation of his credentials and a survey of his character.
4. Must be a member of, or an applicant for membership in, the Active classification of the A.S.I.
5. As a substitute for special training, service with a qualified lie detection examiner, preferably one who has been certified by the Committee, may be acceptable. The exact time basis for this has not been specified, and each case must be reviewed and decided individually by the Certifications Committee after the application is submitted in the regular manner. The time allowance for this type of training will vary with the amount and type of work done with the preceptor. Opportunity for personal responsibility during the training period is essential.
6. At least a fundamental knowledge of anatomy, physiology, psychology, and drugs as they relate to lie detection is essential.
7. The period of special training should emphasize the basic procedures of instrumental lie detection, conditions for testing, preparation and handling of subjects, deception criteria, chart interpretation, interrogation, and the legal aspects, in addition to the theory upon which the method is based.

Address: Mr. Albert L. Breitzmann, Secretary, Certifications Committee, 215 Brown Avenue, Evanston, Illinois.

REQUIREMENTS

The requirements for all candidates will be uniform as follows:

1. Training

Actual attendance at a formal course of training for polygraph examiners, covering specified subjects. The possession of a certificate or diploma shall not be considered as bona fide evidence of attendance and training at a formal course.

The list of subjects to be included in recognized courses is:

Introduction:

- History and development of deception tests.
- Theory of polygraph examinations and other tests.
- Methods of demonstrating reactions.
- Types of tests.
- Fields for polygraph examiners.

Basic Procedures:

- Setting up instrument.
- Attachments and accessories.
- Mechanical operation of the instrument.
- Chart marking.
- Question formation.

Conditions for Test.
Preparation and Handling of the Subject:

- Pre-examination indoctrination.
- Psychological testing:
  - Intelligence.
  - Personality.
- Control tests:
  - Ability to react.
  - Lie pattern.
- Deception criteria.
- Chart interpretation.
- Review of charts.
- Interrogation.
- Statements and confessions.
- Records and reports.
- Servicing the instrument.
- Medical subjects.
- Drug effects.
- Narco-interrogation techniques.
- Psychology, applied.
- Criminal psychiatry.
- Legal aspects.
- Ethics.
- Public relations and relations with other examiners.
- Laboratory:
  - Exercises and experimental tests using the instrument.
  - Practice making blood pressure readings.
- Observation of actual examinations.
- Conduct of actual tests under supervision.

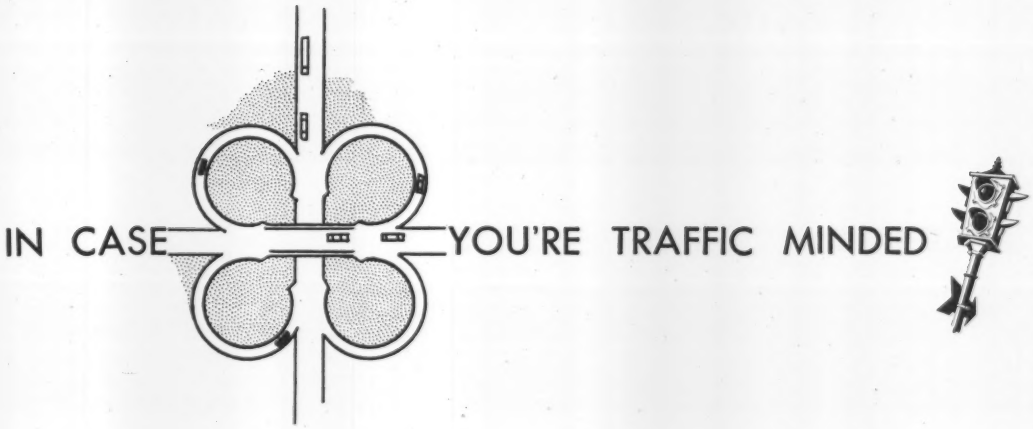
The above subjects have not necessarily been listed in the order in which they should be given in a regularly scheduled course, nor have time values for each subject been indicated.

2. Practice

In addition to two years' practice in the field, and in addition to the 300 subject hours, required for Active Membership in the Academy, all applicants for certification completing training shall, immediately following their training, or in conjunction with their training, examine under supervision or subject to review, at least 150 subjects, no more than 20% of this number being routine screenings.

3. Other Requirements

The candidate for certification shall be 25 years of age or older, of mature judgment, a good citizen without criminal record. He should be possessed of an insatiable curiosity, pleasing personality, and a sense of fair play. He should be cautious, studious, ethical, just, and lacking bias. He is to be of unquestioned honesty and integrity. He must have a desire to remain in the field for sincere purposes; have a firm belief in the method and equipment of deception detection; and must be able to control interviews. A candidate must be an accomplished interrogator. Minimum academic requirements have not been established due to emphasis being on the candidate's specialized training, experience, ability, and character. ★★★



Psychological Factors in Highway Traffic and Traffic Control

(PART I)

By A. R. LAUER

EDITOR'S NOTE: *Dr. Lauer is Director of the Driving Research Laboratory at Iowa State College. Since 1930 various studies have been carried on as a phase of applied experimental psychology at this institution. During the latter part of the thirties the work was definitely associated with the Engineering Experiment Station at the College. Later, with the development of the Industrial Science Research Institute it was shifted back into the Division of Science and has gradually grown to its present size and scope of activities.*

Grants from insurance companies and other organizations in addition to contract research with the Armed Forces has necessitated the use of two experimental wings of 1200 square feet each to house the numerous major and minor projects devoted to phases of research on driving and highway safety. The laboratory is being equipped with some of the finest experimental apparatus available. This includes such devices as the Stoelting Precision Chronoscope, a Radar Speed Meter, Tapley Decelerometer, Densichron, Tycos Self-Recording Sphygmomanometer, Sight-Screener, Cheiroscope and various other standard pieces of equipment besides numerous specially built devices such as the Drivometer, Scotometer, Comparometer, Coordinometer, Glareometer and Night Vision Meter. A complete set of equipment for measuring vision, reaction time, certain physiological and electro-dermal responses, driver qualifications and fatigue are available and are being developed as rapidly as the need demands.

The staff consists of the Director, Assistant Director, Secretary, Laboratory Technician and from five to seven research fellow and assistants, in addition to auxiliary personnel for special projects. Five research fellowships are made available to qualified graduate students each year. The stipends range from $540 to $1125 annually, depending upon the experience, training, schedules adopted and other qualifications of the applicants. High scholarship is a prime requisite. The intent of these fellowships is to train men in the field of highway safety, accident prevention and human conservation.

The following article by Dr. Lauer is based upon material he presented in a chapter under a similar title in the book PSYCHOLOGY FOR LAW ENFORCEMENT OFFICERS, edited by Professor George J. Dudycha, Department of Psychology, Wittenberg College, Springfield, Ohio, and recently released by Charles C Thomas, Publisher.

Address: Professor Alvah R. Lauer, Director, Driving Research Laboratory, Industrial Science Research Institute, Iowa State College, Ames, Iowa.

THE PSYCHOLOGY OF PUBLIC RELATIONS

PERHAPS no one is in greater need of establishing good public relations than the traffic engineer and the highway engineer. The ramifications of these relationships range from placating the landowner through whose property a new right-of-way is being planned, to satisfying the many and various highway users concerning the nature and placement of signs, markers, lane markings and the like. Thus it is very necessary for those in charge of developing, maintaining and regulating traffic on the highway to be adept at public relations. This can be achieved, in part, by a sensible application of the principles of psychology.

Good public relations are predicated on two fundamental premises: (1) that the persons dealt with receive fair consideration in matters concerning them; and (2) that such individuals be educated to realize that the recommendations made are for their benefit. The procedure or

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technique of accomplishing these two results is primarily an emotional one. People rarely use reason to settle matters pertaining to emotional things such as beliefs and desires. Hence in public relations one must constantly be alert to that which motivates those with whom he is working. Such small details as tone of voice or facial expression may be the key to success or failure. Above all one must keep himself under control.

Of course a great deal of what may be called public relations ability lies in one's personality and personal make-up. These in turn go back to certain of his inherited traits and frequently to habits acquired during early training. A public relations man must be like a bridge or poker player. He must use the cards he holds in his hand and play them to the very best advantage. Sometimes men or women who by ordinary standards would not be expected to possess public relations ability are very adept in this respect. Others who should do a good job of public relations fail utterly. It should help in dealing with people to make a systematic study of the principles of psychology. While the academic psychologist may look askance on the sources suggested here, nevertheless they should help the average man in public work to understand others better and to improve his own technique in public relations.

Morgan and Webb in the book *Strategy in Handling People* have dealt with problems of human relations. Overstreet has also made a valuable contribution in his volume *Influencing Human Behavior*. Any law enforcement officer who is interested in public relations might well look into these two books.

How Highway and Traffic Engineers May Use Psychology

Highway and traffic engineers as well as enforcement officers have numerous problems that involve public relations. Only a few illustrations may be given here. One, for example, might concern the placing of a stop-light. Someone in a community, for one reason or another, may decide a stop-light is needed at an intersection. The problem may not appear serious to the traffic engineer from the standpoint of density of traffic. He may abruptly state that there is no need for the light and assume an obstinate point of view with respect to his stand. This approach is likely to engender antagonism and arouse the interest of others. In this case it may be best to appoint a professional committee to investigate the situation and present the facts. Usually when the facts are presented the person making the request realizes that if a traffic signal is placed at this intersection, one might have to be placed at practically every other intersection in the city. If the tax load resulting from widespread installations is given, the matter usually quiets down immediately.

Also, on the other hand, a careful study of a situation may indicate that the public is right. Napoleon once said that he liked to have experts develop plans for a campaign and let laymen criticize the plans. In such instances a reversal of the engineer's opinion, in view of known facts, will never cost him prestige. Fairness and open-mindedness are the cornerstones of getting along with people. Encouraging a representative local group to study a situation and make recommendations on the basis of needs, costs, and the like, generally is the best solution.

One basic principle is to avoid raising an issue, if possible. In one case highway engineers were very much embarrassed by the problem of removing trees along the right-of-way through a small mid-western city. Apparently the situation was muffed by lack of astuteness in the initial stages and instead of letting it settle down before making any overt moves, an order was given to take the trees out irrespective of the objection of citizens. A bulldozer was put on the ground and started to operate. One woman, very violent in her protest, flung herself before a tree and defied the operator to move. Much time was lost and ill feeling generated for no reason at all because of a slip-up in the public relations procedure. Finally the trees remained and the engineers lost face. It is important to keep issues such as this from arising if at all possible.

A great many problems arise over the location of right-of-ways. In the earlier days of improved highways many of the smaller cities wanted the new roads to pass through or near the business district. At present there is a tendency to take the opposite view. They don't want the highways because of traffic problems.

By the right kind of publicity and with proper discussion of matters in

an unemotional way, most such situations can be handled without engendering a great deal of sentiment either way. It is primarily a matter of using the right psychology in dealing with the situation.

How the Enforcement Officer May Use Psychology

A few years ago it was customary for enforcement officers to be very "hard-boiled." The tougher they were, the more successful their work was thought to be. The public had to be pushed around to develop respect for authority. Under certain conditions of mob violence this view may still be correct. In traffic situations, however, such an approach by enforcement personnel does not yield the best results in the long run. If an officer is bullied by a driver, undoubtedly there is a tendency to get a little tough. However, the average driver is not a criminal; he is not even averse to good driving habits. Perhaps he is just negligent, or because of lowered attention or preoccupation he runs through a red light or exceeds the speed limit. Hence the enforcement officer's duty is to remind him of the law and to correct his erroneous ideas or habits in a courteous way. Enforcement is as much a matter of teaching as it is of policing. Education is recognized as the best long-range technique for reducing accidents. Therefore, the traffic officer should consider himself a teacher most of the time and should study the methods of teachers. For the most part the techniques of teaching are quite different from those used by police officers in handling the outlaw group of the population.

In any case, public relations is a very important aspect of traffic-law enforcement. Because of administrative policy most state highway patrols have long stressed the need for courtesy toward the driver on the part of officers. In fact this has become so deeply ingrained that only rarely is the principle violated. The relationship between the public and the highway patrol in general is exceptionally congenial. In Iowa, for example, it is customary for the patrol to be invited to various types of meetings—Parent-Teacher Associations, public school groups, civic organizations, service clubs, etc.—to give talks and advice on various phases of highway safety. This is an excellent way to develop good public relations. Some of the other techniques effective in securing results may be obtained from a study of the sources recommended above.

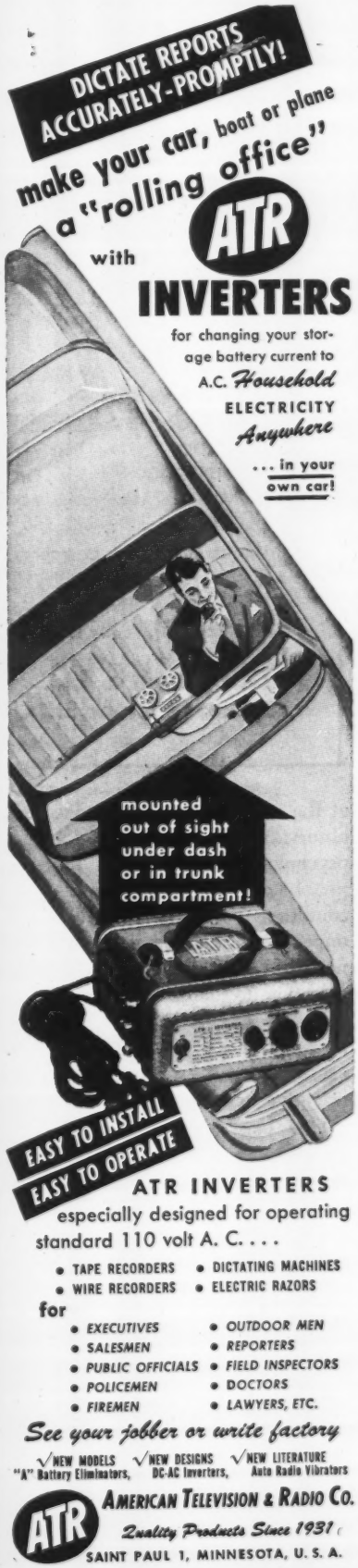
Public Relations and the Layman

People differ considerably in their attitudes. One person is very cooperative and anxious to conform to all the rules of society; another is a "toughy" who is anxious to violate every rule of the road. This is particularly true of a certain group of delinquent youths who have given the teen-ager a bad name. Such games as "chicken," "spider" and similar misuses of motor vehicles and traffic facilities must not be tolerated. It may be safely said that the layman, as an individual, usually responds to people pretty much as they respond to him. Therefore, if treated reasonably and given proper consideration as a driver, at least 95 per cent of all drivers will try to cooperate with the enforcement body. Herein lies the secret of the effect of public relations. When the lay driver feels that the enforcement officers are trying to help him, and not trap him, he behaves much better and tries to cooperate, and tends to avoid conditions that result in accidents or in violations of a traffic regulation.

If properly handled even the "tough guy" may soften up and show remarkable cooperation. Those who do not, however, should be dealt with in such a manner as to discourage the misuse of the privilege to drive an automobile.

TYPES OF PSYCHOLOGICAL HAZARDS

PSYCHOLOGICAL hazards may be differentiated from physical hazards in that they are the result of a certain mental state, or attitude of the driver. They often lead to an unnecessary exposure or unwillingness to accept responsibility while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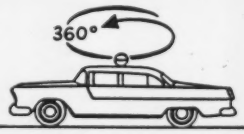

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at the wheel. From our studies and observations it would seem that psychological hazards, in general, may be classified with respect to the conditions which lead up to taking unnecessary risk, namely: (1) ignorance of the situation; and (2) inattention to danger. Some persons actually drive up to eighty miles an hour without realizing that they are exceeding a safe speed. They are inattentive to danger.

One class of drivers is that in which some motive is so strong that the desire to keep within the law is forgotten or overlooked. For instance, there seem to be persons who are so impetuous that they drive recklessly for no good reason at all except that they are bored by the slow moving state of affairs. Another type may be identified as the malicious nondescripts who take pride in violating all the rules and canons of society. They vary from the irresponsible speed maniac to the malicious type of individual who drives to see how many laws he can violate.

Mental State of the Driver

The mental state of the driver has a great deal to do with his willingness and ability to drive safely. If he is excited or strongly moved to get somewhere because of an emergency, he may exceed the speed limit or fail to notice a STOP sign. If worried and under mental tension because of events transpiring immediately around him, he may be in such a state of mind as to neglect the common courtesies of the road, such as, giving hand signals, staying on the right side of the road, slowing up for the car ahead or otherwise using ordinary care in driving. Again there are other mental conditions which may be better designated as the lack of a "state of mind." Reference is made to the person who is sleepy or otherwise has his mental efficiency lowered through the monotony of highway travel. A man's conduct must be judged in terms of his mental state at a given time.

Unfortunately most accident reports contain little, if anything, relating to the driver's state of mind. Probably this is due in part to the inability to set down objective statements which identify the condition. Again it may be due to the fact that one often tends to disguise his true feelings.

Most mental conditions may be measured best indirectly. Thus indirect consideration of such conditions which may create momentary traffic hazards should be carefully studied by persons qualified to interpret them. This is where the psychological approach fits admirably into accident investigation. It is hoped that in time every city will have an accident squad that will include someone trained to make proper evaluation of the driver's mental state just prior to and at the time of the accident. This would include a routine physical check-up to ascertain whether the person had been drinking, whether he is a diabetic and perhaps suffering from an overdose of insulin, whether he is an epileptic and had a momentary seizure, or whether he is suffering

from some other induced condition of a psycho-physiological nature.

An adequately trained psychologist should be on hand to investigate the pattern of behavior just before, during, and after the accident. The consistency with which the various alleged causes are given might be better evaluated. He should also solicit the advice of the medical man on matters pertaining to psychosomatic symptoms and syndromes.

Age and Accidents

Age is an important factor in accident involvement and the relationship is different for men than for women. In general, age is less important in considering the driving records and behavior of women than it is of men. Psychologists have not thoroughly differentiated between the masculine and feminine patterns of behavior between the ages of 15 and 30.

It is a sad commentary on the chivalry and mentality of American manhood that the driving record becomes gradually worse from the time of learning to drive for a period of about six years. It is particularly significant since women's records are improving constantly during this period. The figures were taken from the 1948-49 records. There is no reason to believe they are exceptional in any way since most of the men had been out of the Army for three or four years and there was no immediate pressure of the draft or other reasons which might abnormally affect mental processes of the individual during that time.

It would be folly to assume that the curve represents the common run-of-the-mill type of behavior characteristic of the male driving population. Actually it is not. A sizeable percentage of individuals of this age manifest such a bad showing that it spoils the good record of all others. In other words, the curve seems to be changed from its normal form, not by the combined effect of every individual being slightly accident-prone, but apparently it is due to a few individuals who are involved in accidents far out of proportion to that which chance would indicate for the age group.

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If these curves are studied closely it will be noted that beyond the age of thirty the sexes remain more or less equal except for a slight rise around thirty-five in the case of women. This may be due partly to the fact that they have family worries or that children are often riding in the car. Certain physiological changes may also be a factor. It should be noted that the upturn in the susceptibility to accidents for women is accelerated after fifty-five. The curve runs on evenly for men until sixty or sixty-five. Such findings are not to be interpreted as being fixed and unchangeable. It is very likely that ten years hence a similar study will yield somewhat different results due to various environmental, economic and social changes. Now, women as a group, may have learned to drive later in life and therefore those who are now fifty-five or sixty have not had the experience in driving and traffic that men have had. It will be necessary to wait and see exactly how this effect varies with different periods of driving, and with various types of traffic conditions existing over a given period.

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How Intelligence Affects Driving

The role of intelligence and judgment in sane driving is very important but the relationships are not all linear. In certain tests used to evaluate driving it seems that judgment particularly is an important factor in the development of good driving habits. Intelligence, as such, above a certain level is less important and may be given as a secondary cause of any apparent association with accident involvement. Baker at the Northwestern Traffic Institute, for instance, has been quoted as saying "morons make the best drivers." It seems certain qualifications need to be given this statement. Our own studies have not confirmed his finding. A moron is a person with an IQ between the limits of fifty and seventy. In other words, he is one who is 50% to 70% as intelligent as the average. Our studies have indicated that the safest drivers are persons from slightly below average to slightly above average, particularly among commercial drivers.

These findings have been confirmed to some extent by the experience of some commercial companies. It has been found that C+ drivers, those slightly above average, seem to be the most successful. In their selection they do not choose persons with extremely high intelligence for driving jobs, except for a few who are chosen to be given supervisory jobs later. The applicants are very carefully selected and only persons with a certain type of disposition or temperament are hired at this intelligence level. After a time they are taken into confidence and given a chance of qualifying themselves for supervisory and administrative leadership within the organization.

Judgment, however, while based somewhat upon the intelligence and somewhat dependent upon mental alertness, is a very important factor in driving. Unlike intelligence, it can be highly developed by training. Any person with reasonably good intelligence may develop his specific judgment to a high degree. This may be shown in almost any area where highly trained technicians are used. Because of their training, experience and knowledge concerning certain conditions and phenomena, some individuals become outstanding experts or judges in the field. Note the case of the tea tasters and the wine tasters. They must exercise their judgment as to the value of tea and wines or other drinks and beverages. There is reason to believe that no high correlation between intelligence and judgment exists. Persons above the average in the distribution of mental ability may learn faster but may not persist in mastery of a simpler function.

This is also true of traffic efficiency. Intelligence is an innate ability but judgment is acquired largely through experience. Above a certain minimum level it appears that judgment is much more important than general intellectual ability in so far as highway safety is concerned. However, the general notion that morons are the safest drivers does not fit into the general scheme of scientific facts relating to driving.

Hazards Due to Inadequate Road Marking

This may at first appear to be a non-psychological category. However, there are conditions in which certain mental states are created by inadequate road markings. There are several factors to be considered here. In the first place, there is the condition of inadequate markings which creates an uneasiness in the mind of the driver due to a misunderstanding of signs. Forbes has shown that right-turn signs tend to facilitate the movement of traffic even on such a well-regulated thoroughfare as the Pasadena Freeway. Therefore it follows that where traffic flow is much less well-organized properly designed signs are of even greater importance. In some mid-western states insufficient attention has been given to route marking especially through the cities. In one mid-western city of approximately 100,000 it was extremely difficult for a stranger to pass through without becoming lost and driving several extra blocks before locating the highway again. Such confusion and delay is entirely unnecessary and can be remedied by proper route markings.

At present some highway departments use rather large signs with letters reflectorized and up to 15 inches in height. In Canada and in certain states, pictographic or illustrative markers are used to indicate side roads, main roads, turns, crossroads, etc. These seem to be very effective in keeping the motorist at ease and properly informed as to the route he is following.

In some instances signs are not properly maintained nor placed most effectively. An example is given of two railway signs. One of these is very well maintained and set back at a reasonable distance to warn the motorist of the railroad, and the possibility of a train crossing the road. The other sign is very inadequately maintained, the paint is dull, the letters are rather illegible, and it is placed on the right-of-way, practically next to the tracks. Such inadequate markings as these tend to confuse drivers and to engender dis-

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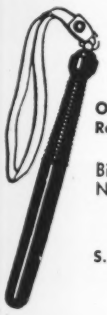

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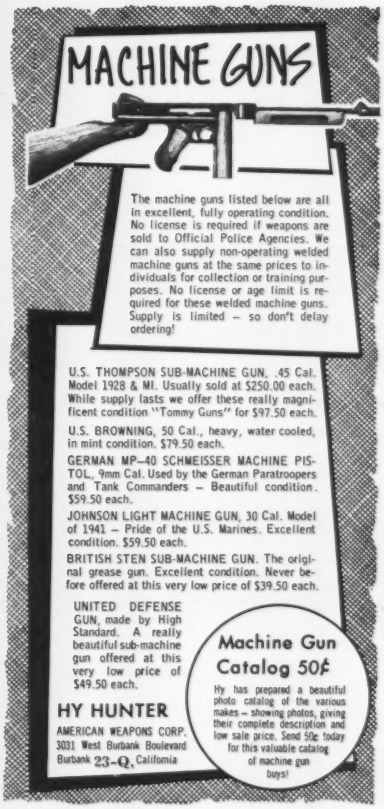
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respect and poor attitudes toward signs in general. Although the uniform code has specifications that remedy such conditions, some states have not taken advantage of the standards for effective signs and markers set up by leading authorities on traffic. When proper psychological principles are applied to the placement, legibility and visibility of road signs and markers, safety is increased.

Psychological Hazards Reduced By Driver Education

The effects of driver education on subsequent accidents and violations have been studied to some extent but it is hardly correct to say that all factors were controlled in some of the studies. Therefore, we can only reason that training in general does reduce personal hazards of driving as has been shown in industry and in other fields. To what extent training may reduce mental hazards depends on a number of factors.

Several organizations are now studying this problem and some rather specific answers may be available within the next two or three years. Various factors in driver evaluation must be very carefully controlled or erroneous conclusions may be drawn.

Studies by the American Automobile Association and others have shown that the accident rate of trained men is about half that of the untrained men. In some of these studies there were so few accidents among women that their records could not be used. It would take a very large sampling of drivers to furnish a sufficient number of accidents to properly evaluate women's records. However, it is conceivable that there are selective factors operating when making comparisons between men and women drivers. Men who are interested enough to seek driver instruction, or whose parents were interested enough to have them trained, may constitute a different psycho-socio-economic group than those who learned to drive by themselves. The results as they stand indicate that training does reduce the possibility of an accident to about one-third or one-half of that expected when the driver is not trained. In a few instances the inferences are that the reduction may be even greater.

Again, the type of instruction may greatly influence this effect. In fourteen years of driver education in Iowa, during which time we have trained several thousand drivers, it is quite evident that the effect of training is proportional to the type of instruction given. Teachers who are well trained and adept in this field undoubtedly do a great deal more for the learner than those who are inadequately prepared.

Instructors of driver education must exert their utmost to create the proper attitudes in their trainees. If the sole objective of the course is only to coach the driver so that he may be able to pass the state driver's license examination, it is doubtful whether the accident record will be affected. However, if the objectives are long-range and intended to cultivate good attitudes, as well as to develop an appreciation for the fine points in automobile driving, the results are much better.

Other Psychological Hazards

There are other types of psychological hazards of the highway. These may range from momentary anger through the various emotional states to such abnormal conditions as epilepsy, narcolepsy, amnesia, and the various degrees of insanity. We should, of course, include the mental hazards created by the use of drugs and narcotics of various types. Alcohol is perhaps the most common narcotic used and studies made by the medical profession and psychologists have shown that judgment, one of the most important factors of driving, is only 40 per cent as accurate after drinking seven and a half ounces of gin. Many of the early types of coordination tests of drunkenness are not valid. Judgment is affected before the muscular system shows evidence of intoxication (see references 3 and 4). ★★★

Stopping Distance Charts

Recommended by the National Conference on Stopping Distance Charts

FOR many years, numerous organizations and safety groups have published charts, tables and diagrams showing stopping distances of vehicles from various speeds. These charts have been for educational and other information purposes. Unfortunately, due to differences in definitions and assumptions, these publications have varied, widely, in the distances shown. With new vehicle stopping distances approved for the Uniform Vehicle Code in 1954, it became desirable to obtain agreement among the groups publishing stopping distance information for educational purposes as to uniformity in the charts, tables and diagrams.

There are so many variables in the factors which make up the total distance required to stop a vehicle from various speeds that a set of educational charts which would fairly present the subject were a decided challenge to organizations participating in two national Conferences on this question. It would be easy to complicate the charts by an attempt to depict all possible conditions. For example: it is admitted that, to the stopping distances shown in these charts, there must always be added, in actual application to driving performance, the distance the vehicle moves before the driver sees the danger and can realize the need for a stop. This is known as Perception Distance. This distance varies with the alertness of the driver and his attention to highway conditions. Similarly, it is known that under ideal *testing* conditions, passenger cars can be stopped in distances considerably less than those shown in the passenger car table.

In order that organizations publishing stopping distance charts may be wholly aware of these problems, a brief semi-technical outline of the subject has been prepared to accompany the recommended tables. This material should always be included when the charts are used for instructional purposes. It is realized that the outline cannot be included in pocket-size or ready-reference stopping distance publications.

The accompanying tables represent the agreement of many safety organizations. Every effort has been made to simplify the charts as to terminology and extent but with appropriate sub-titles and footnotes to show the variables.

It is hoped that all organizations publishing stopping distance information for educational purposes will adhere to these recommendations.

STOPPING DISTANCE CHARTS

(The variable factors involved in determining the stopping distance of motor vehicles from various speeds.)

Stopping Distance

For any speed, the distance required to stop a vehicle in an emergency depends on three things: driver perception time, driver reaction time and driver-brake or tire-road stopping ability. During the first two of these three, the vehicle does *not* slow down because the brakes have not yet been applied.

Perception Time

Perception time is the time it takes the driver to perceive a dangerous situation after it could have been perceived. Suppose a driver sees a vehicle moving at 30 MPH from behind a view obstruction at an intersection only after four feet of it has become visible. From the moment the moving vehicle *could* have been seen, about .09 seconds has passed. This is the driver's perception time—in this case a little less than a tenth of a second. If a driver is intently watching the stop light of the car ahead and it comes on bright red he will perceive it almost instantly and, for practical purposes, his perception time is zero. If, however, he is looking at scenery off to the side of the road when the stop light comes on, and only two seconds later, as he looks ahead again, he sees the light, his perception time is two seconds.

Perception time may be much longer. For example, a dozing driver lets his car angle slightly to the wrong side of the road. When it begins to cross the center line he could have perceived it by sight but he does not notice his position until a wheel runs on the left shoulder of the road and he perceives it by feeling the bump—30 seconds later and a quarter of a mile down the road. Sometimes the perception time extends right up to the collision. This is the usual case when the driver explains: "I never saw him until he hit me."

Perception time varies tremendously with circumstances. It is very closely connected to attention. Alert drivers have shorter perception times than those who let their attention wander. A driver who is usually quick to perceive may sometimes be distracted by something especially interesting to him and experience a dangerously long perception time. Although perception time is

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HIGH ACCURACY
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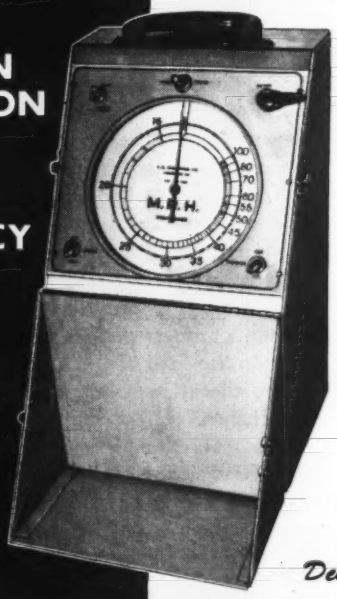

Electrical speed timing has become an accepted method of controlling the speeder. The Stoelting "MPH Speed Timer" requires no special training or knowledge to set up and operate — in most situations only one man is required. The basic principle is simple and the speeder (the public) is impressed with its precise and easy-to-understand operation. Employment of scientific SPEED CHECKING methods builds up the prestige of a police department in the community and eliminates complaints of entrapment.

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often almost nothing, nobody knows how long it might go—if there were no accident—in the case of a driver who falls asleep at the wheel. *Nobody knows what the average perception time is for all people in all driving situations.* It is not practical, therefore, to embody the distance travelled during perception time in tables of stopping distances of vehicles from various speeds. However, from the table of distances travelled during various times for various speeds, you can get some idea of what distance might have to be added for perception time to total stopping distances shown in the tables.

Reaction Time

Driver reaction time is the time taken by a driver after he perceives a hazardous situation to make the vehicle begin to take preventive action because of it. It includes the time required for the driver to decide what to do—thinking or mental reaction time; and the time it takes to set the vehicle controls in motion—muscular reaction time. In stopping, the latter is the time required to move the foot from the accelerator to the brake pedal. It is usually between a quarter and a half of a second if the driver tries to be quick about it. How much thinking time is required depends on how long it takes the driver to make up his mind and this, in turn, depends considerably on how complicated a decision he has to make.

If the driver has his mind all made up in advance and only has to take action when he perceives the situation, the reaction is *simple* and generally takes between a quarter and a half of a second. This is what happens when the driver is approaching a green traffic light and is ready to put on the brakes if it turns yellow. If the situation is more complicated and the driver has to decide among several possible things to do, the reaction is *complex* and often may take more than twice as long as a simple reaction. A situation involving complex reaction occurs when a pedestrian crossing in front of a driver stops suddenly in the driver's path. The driver must decide whether to turn right, turn left or stop. If the decision is made too quickly, the reaction may be short, but the resulting action wrong.

Drivers with well-practiced habits are able to make correct decisions more quickly than those who have not consistently followed good driving practices. Most of the reactions required in ordinary driving are simple ones or not very complicated, complex ones. A reaction time of three quarters of a second for thinking plus muscular reaction is fairly representative, therefore.

Stopping Ability

Ability of the vehicle to slow down depends on how hard and steadily the driver presses the brake and how effective the brakes are compared to the weight of the vehicle, or, if the driver and brakes can lock the wheels, how slippery the roadway is. Even a weak driver, or brakes that are small for the weight of the vehicle, will be able to lock wheels on a slippery road, whereas they might not be able to do so on a hard, dry pavement.

INTERESTING AND UNUSUAL CASES

Unusual Document Alteration

Documents afford unlimited opportunities for alterations by unscrupulous persons intent on "easy" money. The alteration shown above is uncommon because of the paper on which it was accomplished.

The case was quickly solved by microscopic and photographic examinations. The document was a race track ticket. A "winning" number was excised from a discarded two dollar ticket of appropriate color and inserted into a costlier "losing" ticket. Laminated cardboard was used for tickets at the track. The paper permitted the scalpel wielder to exchange numbers with a limited chance of discovery on the face of the multi-colored tickets and with the alteration being invisible on the back side of the tickets.

The switch, though skillful, required less than an hour. When the track made more pay-offs than there were winning tickets, a vigorous search was made for the reason for the discrepancy. It was found with the microscope. A trap was set for the suspect who was quickly apprehended.

The top photograph shows mismatching surface markings on the surface layer of paper corresponding to water marks. The lower photo by oblique light reveals precision knife and patch work both of which escaped unaided eyes.

(Courtesy, Lieutenant Walter R. Scott, San Diego Police Department.)

State laws require a certain minimum ability of brakes, that is, brakes must be able to stop a vehicle within a certain distance from a given speed, usually 20 miles per hour. Big trucks are generally allowed, by law, more distance in which to stop than passenger vehicles. Most vehicles can be stopped in considerably less distance than required by law, but with ice or snow on the roadway any vehicle will take farther to stop than the distance set up as the legal maximum for brakes.

Tables and Charts

All the tables and charts showing how far it takes to stop from given speeds are based on certain assumptions as to the reaction time of the driver and as to braking distances. A table based on one set of assumptions is accurate for those assumptions but does not apply under other conditions.

For educational purposes, drivers must be impressed with the great distance it may take to stop a vehicle, especially from high speeds. This is the basis for the assumptions used in the tables of stopping distances hereinafter recommended for educational purposes.

Only the appropriate table for the type of vehicle under consideration should be used. Tables prepared for educational purposes ordinarily cannot be used to prove, in court for example, in how short a distance a vehicle might be stopped. Nor can they be used to estimate speeds from skid marks or for other technical purposes for which there are special tables.

Uniformity

Sometimes two organizations issue stopping distance tables for educational purposes and these do not agree because they are based on different assumptions. Then people who receive both are needlessly confused by the difference between them. Although this variance is puzzling, it does not mean that either table is incorrect. Both show the same thing about the seriousness of stopping distances, even though they are based on different assumptions. Therefore, all organizations issuing such charts for general public education purposes should use the recommended tables or base the ones they publish on the same assumptions as the recommended tables. If other tables are published, their special purpose and the assumptions on which they are based should be clearly stated to avoid confusion.

STOPPING DISTANCES

(After driver has perceived the hazard requiring a stop)

PASSENGER CARS

Speed Miles Per Hour	Feet Per Second	Driver° Reaction Distance	Vehicle† Stopping Distance	TOTAL‡ STOPPING DISTANCE
10	15	11	6	17
15	22	17	14	31
20	29	22	25	47
25	37	28	39	67
30	44	33	55	88
35	51	39	78	117
40	59	44	105	149
45	66	50	136	186
50	73	55	188	243
55	81	61	230	291
60	88	66	300	366
65	95	72	380	452
70	103	77	455	532

° Driver reaction distance based on reaction time of ¾ second, a typical reaction for most drivers under most traffic conditions.

† Vehicle stopping distance based on provisions of the Uniform Vehicle Code for 20 MPH, adjusted where necessary at higher speeds to conform to studies of the U.S. Bureau of Public Roads.

‡ If perception time is determined to be an appreciable factor for a particular situation, the distance travelled during this time should be added to the total stopping distance. After estimating perception time, the corresponding distance may be determined by reference to the second column which shows the feet travelled per second for the various speeds.

This table developed for educational rather than legal or engineering purposes.

STOPPING DISTANCES

(After driver has perceived the hazard requiring a stop)

HEAVY 2-AXLE TRUCKS

Speed Miles Per Hour	Feet Per Second	Driver° Reaction Distance	Vehicle† Stopping Distances	TOTAL‡ STOPPING DISTANCE
10	15	11	10	21
15	22	17	22	39
20	29	22	40	62
25	37	28	64	92
30	44	33	92	125
35	51	39	125	164
40	59	44	165	209
45	66	50	210	260
50	73	55	255	310
55	81	61	310	371
60	88	66	370	436

° Driver reaction distance based on reaction time of ¾ second, a typical reaction for most drivers under most traffic conditions.

† Vehicle stopping distance based on provisions of the Uniform Vehicle Code for 20 MPH, applying the same average deceleration required for this performance to higher speeds.

‡ If perception time is determined to be an appreciable factor for a particular situation, the distance travelled during this time should be added to the total stopping distance. After estimating perception time, the corresponding distance may be determined by reference to the second column which shows the feet travelled per second for the various speeds.

This table developed for educational rather than legal or engineering purposes.

STOPPING DISTANCES

(After driver has perceived the hazard requiring a stop)

LIGHT 2-AXLE TRUCKS

Speed Miles Per Hour	Feet Per Second	Driver° Reaction Distance	Vehicle† Stopping Distance	TOTAL‡ STOPPING DISTANCE
10	15	11	7	18
15	22	17	17	34
20	29	22	30	52
25	37	28	46	74
30	44	33	67	100
35	51	39	92	131
40	59	44	125	169
45	66	50	165	215
50	73	55	225	280
55	81	61	275	336
60	88	66	360	426

° Driver reaction distance based on reaction time of ¾ second, a typical reaction for most drivers under most traffic conditions.

† Vehicle stopping distance based on provisions of the Uniform Vehicle Code for 20 MPH, adjusted where necessary at higher speeds to conform to studies of the U.S. Bureau of Public Roads.

‡ If perception time is determined to be an appreciable factor for a particular situation, the distance travelled during this time should be added to the total stopping distance. After estimating perception time, the corresponding distance may be determined by reference to the second column which shows the feet travelled per second for the various speeds.

This table developed for educational rather than legal or engineering purposes.

STOPPING DISTANCES

(After driver has perceived the hazard requiring a stop)

3-AXLE TRUCKS AND COMBINATIONS

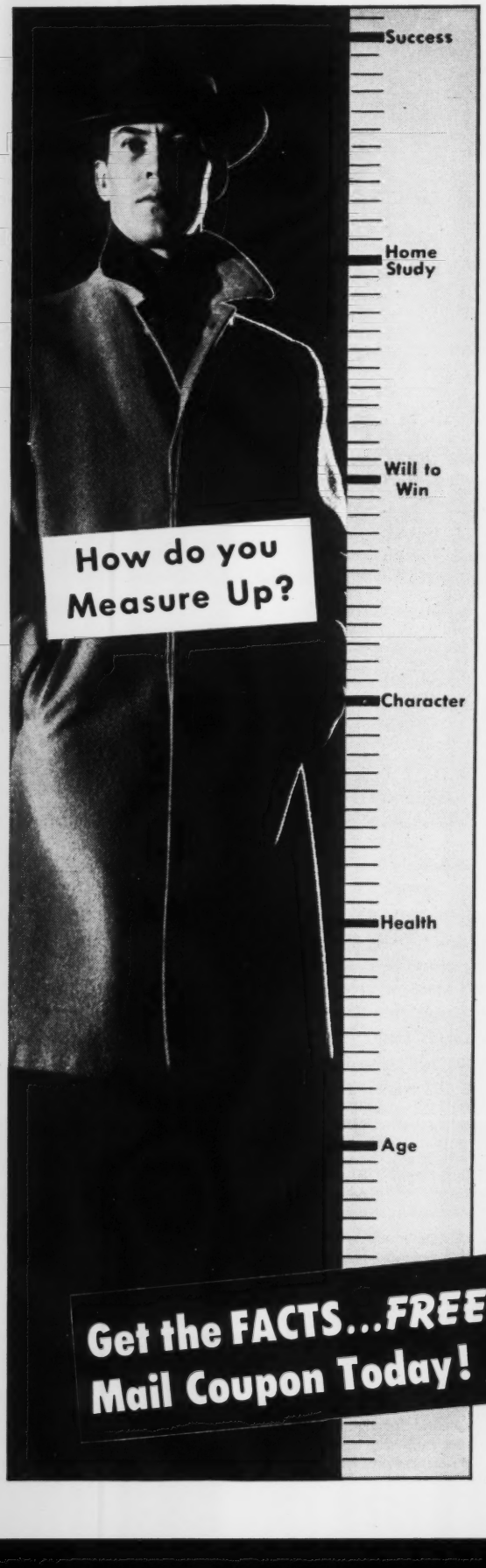
Speed Miles Per Hour	Feet Per Second	Driver° Reaction Distance	Vehicle† Stopping Distance	TOTAL‡ STOPPING DISTANCE
10	15	11	13	24
15	22	17	29	46
20	29	22	50	72
25	37	28	80	108
30	44	33	115	148
35	51	39	160	199
40	59	44	205	249
45	66	50	260	310
50	73	55	320	375
55	81	61	390	451
60	88	66	465	531

° Driver reaction distance based on reaction time of ¾ second, a typical reaction for most drivers under most traffic conditions.

† Vehicle stopping distance based on provisions of the Uniform Vehicle Code for 20 MPH, applying the same average deceleration required for this performance to higher speeds.

‡ If perception time is determined to be an appreciable factor for a particular situation, the distance travelled during this time should be added to the total stopping distance. After estimating perception time, the corresponding distance may be determined by reference to the second column which shows the feet travelled per second for the various speeds.

This table developed for educational rather than legal or engineering purposes. ★★★



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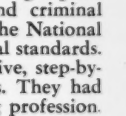

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News and Announcements

MICHIGAN STATE UNIVERSITY EXPANDS POLICE TRAINING PROGRAM

The School of Police Administration and Public Safety at Michigan State University will, effective this Fall, double its major study areas from three to six and add a full Master's Degree Program.

M.S.U. students may enter programs leading to Bachelor's and Master's in Corrections Administration, Highway Traffic Administration, Industrial Security Administration, Crime Prevention Administration, Police Science, and General Law Enforcement.

The M.S.U. School of Police Administration now has a faculty of 13 and a full-time student enrollment of 400.

NEW BOOKLET ON MAGNIFIERS FOR SHOP, LAB., DARKROOM, AND OFFICE

Latest information on magnifiers for research workers, quality control people, and photographers is now available in a new 16-page booklet published by the Bausch & Lomb Optical Co., Rochester, N.Y.

The use of magnifiers for artists, engravers, hobbyists, jewelers, and others who use the instruments in the shop, home, school, lab., or studio is also described.

The booklet explains how to choose the right magnifiers for specific needs and how to get the best performance from them. Included are descriptions and illustrations of the Bausch & Lomb magnifier line.

Copies of the booklet may be obtained without charge by writing the Bausch & Lomb Optical Co., 635 St. Paul Street, Rochester, N.Y.

KODACHROME MINIATURE FILM NOW AVAILABLE WITH TYPE A SENSITIVITY

To meet the specialized needs of professional photographers requiring a 35mm color film balanced for use with photo-flood illumination, Eastman Kodak Company has announced the availability of Kodachrome Professional Film, Type A. The film will be offered in the 135, 36-exposure size only, and will be sold only without an included processing charge in the price. Users must return exposed film to their dealer for transmittal to a processing laboratory of the customer's preference.

Through its dealers Eastman Kodak Company will offer a processing and mounting service for the new film. This service will be charged for separately. Both the exposure indexes and filter data for the new film will be the same as those previously recommended for Kodachrome Film, Type A, for miniature cameras.

Kodak's primary emphasis in the promotion of its color products for miniature cameras will, however, continue to be Kodachrome, Type F, rather than Type A, because of the simplicity and popularity of photo-flash illumination for indoor still color picture taking. Type F is balanced for use with clear, medium delay flash lamps and, unlike the new film, does not require the use of a filter when used with these lamps.

UNIVERSITY OF SOUTHERN CALIFORNIA INAUGURATES POLICE MANAGEMENT INSTITUTE

A Police Management Institute was under way at the University of Southern California beginning in October to run one day per week for sixteen weeks. It has as its objective the training of management personnel in Southern California Police Departments in the fields of management for the purpose of executive development. The Institute is one of several such programs of the School of Public Administration designed to better serve the Southern California communities.

Faculty for the Institute included experts in the field of Police Administration and in the general field of Public Administration. An important component of the Institute is the applied research being undertaken in the field of Police Management. Studies are being made of management problems confronting participants in their departments. The reports of these studies will be edited and published at a later date. Also O. V. Mendes, a doctoral candidate, is gathering incidents on critical management practices, which he will evaluate and report.

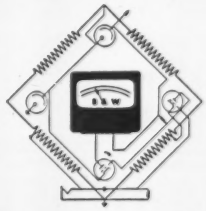
UNIVERSITY OF CALIFORNIA TO REPEAT P & I COURSE

The University of California, School of Criminology, Berkeley, will repeat their highly successful Summer Session Institute on polygraph detection of deception and interrogation. Two years ago the School of Criminology offered courses in both these areas in the summer primarily for law enforcement officers and they proved so popular that arrangements have been made to present them again. Registration begins on June 15 and instruction begins on June 17, for six weeks, ending July 27.

The complete program—three courses of two units each—will include a survey of the mental factors important to an understanding of criminal behavior and a study of their application in interrogation. Special techniques of questioning will be considered and a survey of polygraph operation will be presented. This will include actual experience with the instruments. University credit of two units will be given for each course satisfactorily completed. Tuition fee is $60.00.

Douglas M. Kelley, M.D., Professor of Criminology, and Albert E. Riedel, Lecturer in Criminology, will be the faculty representatives for this session. Persons interested in further information are directed to communicate with Dean O. W. Wilson, School of Criminology, University of California, Berkeley, California.

B & W Lie Detector
The modern means of Instrumental Lie Detection



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MICHIGAN CITY, INDIANA

KEELER INSTITUTE CLASS SCHEDULE

The Keeler Polygraph Institute has announced a schedule of four, six-week classes for 1957. After the January 21 to March 1957 session, these classes are scheduled as follows:

April 22 to May 31, 1957.
July 21 to August 30, 1957.
October 21 to November 29, 1957.

START SLOWLY!

Strange as it may seem, most drivers are more accident prone at the beginning of a trip, according to Markel Service, Inc. A survey of accidents involving trucks and buses insured through Markel Service shows that 65% of the accidents occurred during the first three hours of the trip.

New 750 Watt DC to AC Converters Have Ample Capacity for Marine and Industrial Service

In answer to a demand for larger capacity DC to AC Rotary Converters, Carter Motor Co., 2711 W. George St., Chicago, has announced the addition of a 750 watt model to its famous "Custom" line.

Like Carter 300, 400 and 500 watt Converters, this new 750 watt job incorporates the latest technological advances in converter engineering. Pole shoes and field ring are cast in a single unit, to eliminate electrical loss and simplify construction. Dimensions are 13⅜ in. long x 6¾ in. wide x 7¼ in. high. Weight approximately 58 pounds.

Carter "Seven-Fifty" Converters are available for input voltages of 24, 28, 32, 48, 64, 72, 115 and 230 volt AC and deliver clean 115 volt 60 cycle AC from handy plug-in receptacle.

"Seven-Fifty" Carter Custom Converters deliver full 115 volts AC under full load conditions while operating at their greatest efficiency. To overcome heavy starting load on major appliances, these converters actually deliver a surge of nearly 1,000 watts at 110 volts, 1,200 watts at 120 volts AC output. Here is considerable overload capacity available without sacrifice of efficiency, without overheating or damage.

Seven hundred and fifty watt Dynamotors are also available for AC to DC conversion, part of a complete line of Rotary Power Supplies, Genemotors, magmotors and inductor alternators made by the Carter firm.

A new Bulletin 1156A and complete information and performance charts are available on request to Carter Motor Co., 2711 W. George St., Chicago 18, Illinois.

Stroboflash I Dry Cell Batteries Rechargeable Manufacturer's Tests Show

The life of Stroboflash I 240-volt dry cell batteries can be lengthened 300-400 per cent by recharging, Graflex, Inc., Rochester, N. Y., announced.

Extensive laboratory tests recently concluded by the electrical division of Olin Mathieson Co., manufacturer of the batteries, demonstrated their rechargeability and the extent to which recharging prolonged their life. The SR Battery Booster is used to recharge them, Graflex said.

As a result, all future production of the batteries supplied by Graflex for Stroboflash I will be labeled and sold as rechargeable, Graflex said. Also, the SR Booster henceforth will be marketed as a charger for the Stroboflash I batteries as well as a booster for other batteries.

The Olin Mathieson tests showed that the number of flashes from Stroboflash I was nearly tripled (from 1,150 flashes to 3,000 flashes) when the batteries were recharged with the booster, based on a usage of 200 flashes a day at one-minute intervals. When fewer than 200 flashes a day were used at intervals greater than one minute, the number of flashes was reported increased up to four times.

Recommended recharging time is six minutes per flash used. An overnight 12-hour charge thus would compensate for up to 120 flashes used the preceding day. No damage can result from leaving the charger connected to the power overnight—or even all week-end, Graflex said.

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33d ANNIVERSARY ECONOMY FEATURES

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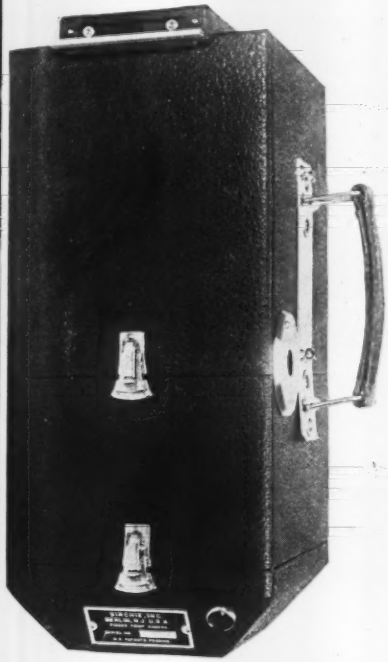

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Your Name or Department Stamped in Gold on Camera or Case Free—If Desired.

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Anastigmat Coated Lens (American make)
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1 Light-on Indicator
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Search Super Seven and Case $8.50 (No Dealers)

THE FAMOUS SEARCH MODEL A FINGER PRINT AND EVIDENCE CAMERA

The only camera capable of delivering perfect photo evidence without reflections and hot spots. Works on A.C. and batteries. Uses 2¼ x 3¼ and 3¼ x 4¼ film or film pack. Automatic in performance. Simple, sharp and clear. Price complete $138.00.

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Largest in the World *First in Criminal Research* *Oldest in the Nation*

Sitting Tall in the Saddle

January 1, 1956 — Rose Parade traffic patrol... February 6, 1956 — Flew heart attack victim from Wilson Canyon... February 10, 1956 — Reseeded La Tuna Canyon area... June 12, 1956 — Search and capture of armed gunman in Newhall Hills after suspect shot motorist... December 26-30, 1956 — Malibu fire, 40,000 acres burned, $70,000,000 damage.

Those terse statements taken from daily log sheets tell of the exciting accomplishments of the Los Angeles County Sheriff Department's Bell 47G-2 helicopter... accomplishments such as the briefly noted Malibu fire where the Bell helicopter performed heroically, flying fire-fighting crews to critical areas, bringing in needed supplies and reporting progress against the fire to fire headquarters.

This modern law enforcement agency is now equipped for tasks that were difficult or impossible before. Tasks that only a helicopter can do — search, rescue, reseeding, fire fighting, traffic control and operations over any terrain.

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